BABesch 81 (2006, 1-12. doi: 10.2143/BAB.81.0.2014421)

The Lobby of the Stone Seat in the Mycenaean Palace at Knossos
A department for storing and recording olive oil and a redistributive area

G.C. Duermeijer

Abstract

The Lobby of the Stone Seat (LSS), or the Room of the Column Bases, in the Mycenaean Palace at Knossos is the find place of the 'Oil Tablets'. These tablets record the incoming and outgoing olive oil. The Lobby of the Stone Seat is a fairly large and easily accessible room, situated only a few steps from the Central Court. Along one of its walls a stone bench was constructed. The room itself and its surrounding rooms were storerooms for pithoi. Shallow basins for the collection of olive oil indicate that olive oil was stored in these pithoi. The amount of oil recorded in the Oil Tablets corresponds with the combined volume of these pithoi. Therefore, this article will argue that from the LSS the olive oil recorded in the Oil Tablets was distributed and that the oil the palace demanded from Cretans was, at least partly, stored in the LSS and the rooms surrounding it. After comparing the Lobby of the Stone Seat to other Mycenaean sites a redistributive function can presumably be ascribed to the room.

1. INTRODUCTION

Mycenaean palaces unite a great number of functions, but first and foremost the palatial sites were redistributive centers.[1] The Palace at Knossos was such a redistributive center, taking in a wide range of products from its dependencies, storing them centrally, and allocating them again throughout the dependent area. It acquired goods as ration payments for workers and suppliers. Officials in the palace oversaw the production of particular agricultural resources and the industrial processes themselves,[2] like the perfume industry of the palace at Pylos. Through its position in this system of redistribution, the Palace at Knossos was able to wield power over its surroundings. This system in its turn assured a certain dependency of the population surrounding the palace to the palace officials.[3]

Linear B-tablets document each stage of the process of redistribution: the collection of goods, the allocation of resources to dependent workers, and the distribution of a variety of commodities.[4] Four types of transaction are recorded in Linear B-tablets: assessments, deliveries to the centre, allocations from the centre, and inventories.[5]

The main organizing principle at Knossos has been labelled the department. Responsibilities were divided among *scribes*, but could be shared as well. One scribe can frequently be seen to follow a certain industry through several stages.[6] The degree of specialisation of these departments varies considerably. Most departments deal with a single type of commodity or a set of related commodities, while some Knossian departments, such as the Northern Entrance Passage and the Room of the Chariot Tablets, record a wide range of commodities. These two departments also stand out for scribal particularities.[7]

The Lobby of the Stone Seat, also known as the Room of the Column Bases, is situated in the West Wing of the Mycenaean Palace at Knossos (*fig. 1*). The tablets found in this room indicate that in Mycenaean times it was an administrative department dealing with oil.

This department is of particular interest given that the set of Oil Tablets discovered here is one of the greatest in number dealing with a single subject. Since the archaeological context of the Oil Tablets is also reasonably straightforward - the room and surrounding area contained almost exclusively storage jars - a study of the Lobby of the Stone Seat and the Knossos' Oil Tablets allows for an in depth view of a Knossian department.

The main objective of this study is to determine the different functions of the Lobby of the Stone Seat (LSS). In this paper the administrative department of the LSS will be examined, firstly

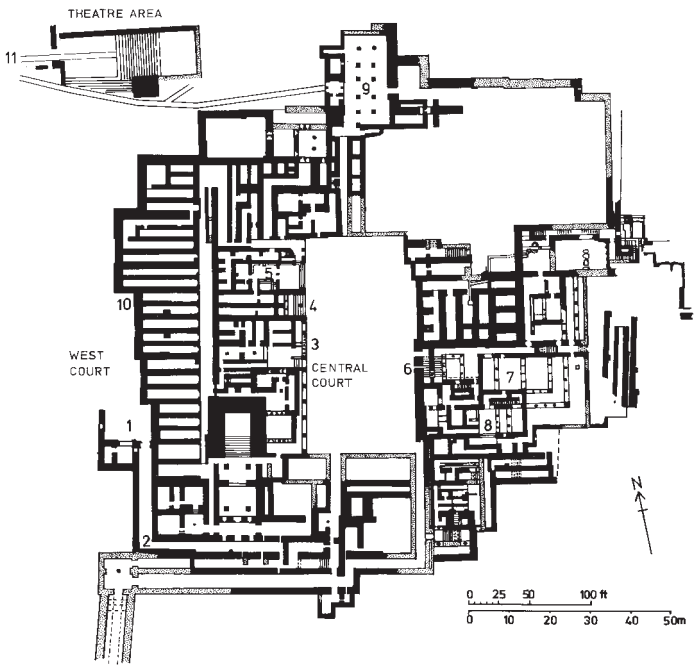


Fig. 1. The location of the Lobby of the Stone Seat (to the left of N. 3) in the Palace at Knossos (after Higgins 1973, 41).

Fig. 2. The Lobby of the Stone Seat from the southeast (photograph by author).

by combining the information drawn from the Oil Tablets with their architectural surroundings. Secondly the LSS is compared to other administrative areas in the Mycenaean system of redistribution, at Knossos itself, at Pylos, Thebes and Mycenae, in order to define its particular features. This investigation covers a wide range of topics in order to establish a clear picture of the transactions that took place in the LSS. The emphasis in this examination obviously lies on oil, oil tablets and oil storage. In this paper I will discuss, by combining the content of the Oil Tablets and the archaeological context, whether this department can best be identified as a storeroom and/or an archive, or whether this part of the Mycenaean palace at Knossos had a more intricate administrative function. I will argue that the LSS combined storage of olive oil and oil tablets with delivery and allocation of olive oil.

2. THE LOBBY OF THE STONE SEAT

The LSS is a rectangular room, approximately 3.5 m wide and 5 m long, connected by a small flight of stairs (six steps) to the Central Court. Its floor consisted of a central mosaic panel in which a shallow basin was placed.[8] Three or four pithoi were found on this floor, one of them *in situ*.[9] Four pithoi of approximately 75 cm in diameter would leave enough room for them to be filled or emptied, without blocking movement through the LSS.

The Lobby of the Stone Seat owes its name to the discovery of a long *gypsum* bench or seat, decorated with flat pilasters, along the northern wall of the LSS, east of the entrance to the Room of the Tall Pithos. This *gypsum* bench (*fig. 2*) has the height of a modern day seat. A stirrup jar was found on the threshold between the LSS and the Room of the Tall Pithos.[10] According to Hallager, the stirrup jar, with its white and brown horizontal stripes, can be attributed to any period from LMII till the end of LMIII, and could date to the Late Minoan IIIB-period (LMIIIB).[11] This date is supported by the identification of a palm-print, L DELTA, on three of the Oil Tablets from the LSS that also appears on tablet Ch 7065, found in the Northern Entrance Passage (NEP).[12] The tablets in NEP belong to a group (Group B) that can be dated to LMIIIB by the complete vases that were found along with them.[13] I agree with R. Firth that the archaeological evidence makes it highly improbable that the Oil Tablets predate most of the remaining Linear B-tablets from Knossos.[14] In fact, it is very likely that they are contemporary.

The Oil Tablets were found to the east of the

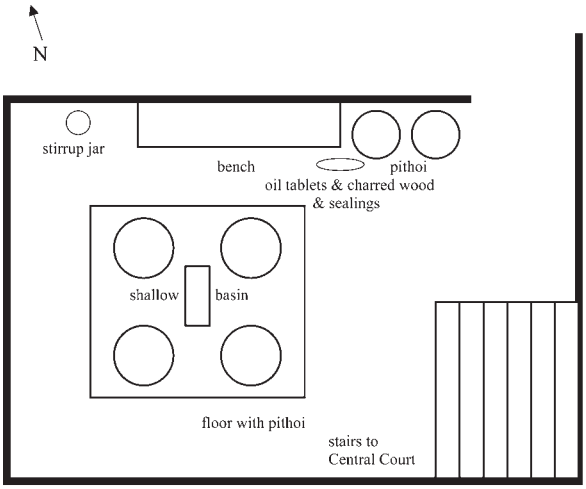


Fig. 3. Sketch of the Lobby of the Stone Seat (based on the map in Hood/Taylor 1981).

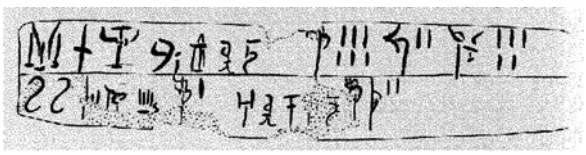


Fig. 4. A Linear B-tablet (Fh 347) as an example of the structure of the Oil Tablets from Knossos (Chadwick et al. 1986, fig. 347).

ma-ro-ne/ku-pi-ri-jo OLE 6 S 2 MU 5
we-we-ro/o-no OLE 1 a-ri-to-[.]jo OLE V 2

bench in a concentrated deposit also containing charred wood and two identical sealings (*fig. 3*). Both sealings show four bulls.[15] Fragments of two pithoi were found alongside this deposition.[16]

A *gypsum* slab was found lying on top of the tablets, sealings and charred wood.[17] The charred wood is either the remnant of wooden boxes that were sealed by the above-mentioned sealings and contained the Linear B-tablets, or the remnant of wooden shelving. Evans thought that the *gypsum* slab was part of these wooden boxes. J. Boardman, however, notes that in the archaeological record no examples are known of *gypsum* slabs used as parts of chests. He therefore questions whether *gypsum* chests were used to store tablets.[18]

J. Driessen suggests that the Oil Tablets were placed beneath the latest floor level as part of a fill. Mackenzie has written in his penciled notes however that the tablets were covered by 'a bit of gypsum slab', thus indicating that the slab could never have formed an integral part of a previously undetected floor-level.[19] The *gypsum* slab must have fallen on the tablets during the destruction of the palace.

The concentration of this deposit makes it less likely that the deposit had fallen from a shelf, unless the tablets had also been stored in wooden boxes. The burning of the shelving would have made the tablets land next to the bench, whilst the wooden casing would have kept them together.

3. THE OIL TABLETS FROM THE LOBBY OF THE STONE SEAT

The Linear B-tablets found lying beside the *stone seat* have been categorized as the Fh and Fp-series and are called the Oil Tablets.[20] According to Evans' Handlist a few tablets lay near the entrance to the Room of the Tall Pithos; they included C 394 (cattle in a religious context) and Oa 733 (probably *ingots*).[21]

The text on the Oil Tablets often has the following structure (*fig. 4*). The first word is written in large syllabograms, and should be read as the name of a person. The second word is an addition to this name, probably the person's profession or his place of residence. In some cases this second word can also be explained as an addition to the product that is administered. For instance the word *ku-pi-ri-jo*, which means *from Cyprus*, could mean a person but just as easily a product from Cyprus. The third entry on the Oil Tablets is the ideogram *130; the sign that refers to (olive) oil.[22] The fourth and last entry on the Oil Tablets is the quantity of oil.[23]

The Fh-tablets recorded both directions of the disbursement of oil, whereas the Fp-tablets only recorded the oil going out.[24]

Sometimes words, such as *a-pu-do-si*, 'delivery', and *qe-te-o*, 'still to be paid', have been added to the four entries on the tablets, indicating that the palace demanded payments of oil from Cretan towns in the Knossos area, indicated by a place-name (toponyme).[25] On the other hand, in the system of redistribution, individuals, groups of individuals, religious officials and cult centers were given oil in return, as can be attested by the addition of *–de* to names of places or people;[26] in the later Greek language *–de* placed directly behind a place-name indicated the destination of a product or person. The fact that *–de* was added in the Oil Tablets shows that some oil was also delivered to places or people outside the palace. Unfortunately most tablets do not include these very informative words. This makes it very difficult to determine whether the oil recorded was going out or coming in.[27]

Nonetheless, Godart has counted the amounts of oil on the Fh-tablets. On average, the amounts oil to be paid by a Cretan town, as recorded on tablets with the addition *a-pu-do-si*, adds up to approximately 1,500 litres, whilst the quantities the palace distributed never exceeded the 115 litres. On average individuals were given about 32 litres and palace officials and cult centers received approximately 27 litres of olive oil.[28] According to Godart's calculations, the palace received a total of 13,574 litres and distributed about 20,573.40 litres; a difference of about 9,000 litres.[29]

All Fh-tablets that could be examined by Olivier were written by *hand* or *scribe* 141. Fp 354 and 363 were written by hand 222. Tablets by scribe 141 and 222 only appear in this area, and tablets known from other departments at Knossos are not found in the LSS.[30] H110 and H222 independently use tablets, which have been prepared by the same tablet makers that prepared tablets for H141.[31] The department in LSS therefore must have operated fairly independently from other departments in the administrative system of Knossos.

Hands or scribes 141 and 222 must have worked in an office that dealt exclusively with the recording of incoming and outgoing oil. The obvious location of this administrative office is the LSS, since there is sufficient space for office personnel to make and sort tablets and it is there that the Oil Tablets were found.[32] Perhaps the small oil payments to individuals were also carried out in the LSS itself, facilitated by the pithoi in the room.

4. THE ARCHITECTURAL CONTEXT OF THE LOBBY OF THE STONE SEAT

The LSS assumes a central position in relation to its direct architectural surroundings. These architectural surroundings constitute the center of the West Wing (*fig. 5*). Many rooms were only easily accessible through this room.[33]

The so-called stone seat is situated along the north wall of the LSS. The doorway to the west of the *stone seat* leads to two rooms (*fig. 5*). Figure 5 shows the location of the East and West Pillar Crypt (EPC & WPC), the Room of the Tall Pithos (RTP) and the Temple Repositories Room (TRR).[34]

In the East Pillar Crypt ten pithoi and two shallow basins were found. The West Pillar Crypt possibly also contained pithoi.[35] The shallow basins in the floor of this room indicate that the pots contained oil.[36] These basins were probably used for collecting spilled liquid, especially such an expensive fluid as olive oil.[37]

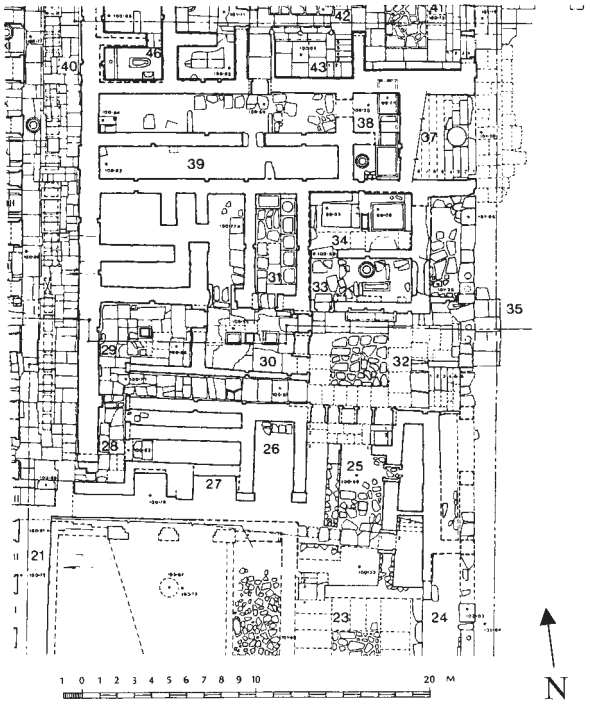


Fig. 5. The Lobby of the Stone Seat and surrounding rooms in the West Wing of Knossos (map in Hood/ Taylor 1981).
32 The Lobby of the Stone Seat (LSS)
33 The Room of the Tall Pithos (RTP)
34 The Temple Repositories Room (TRR)
35 Central Court (CC)
25 The Room of the Chariot Tablets (RCT)
29 The West Pillar Crypt (WPC)
30 The East Pillar Crypt (EPC)

The Room of the Tall Pithos was also used to store oil, for in this room late Mycenaean jugs, pithoi, shallow basins and a sealing (from the so-called Goddess on the Mountain Peak-set) were found.[38] The Temple Repositories Room probably had a similar function. It is uncertain whether pithoi stood in the Temple Repositories Room. A shallow basin, however, was discovered in the center of the room.[39] This, as we have seen, is a clear indication that the Temple Repositories Room was in use as a storage room for oil. A Linear B-tablet (Gg 711) has probably also been found here.[40]

The artifacts from the rooms surrounding the LSS all come from the same stratum and are all late Mycenaean, showing that these storage rooms were probably in use when the Oil Tablets were written.

No remains of olive oil or any other plant residue are known to have been found in the pithoi.

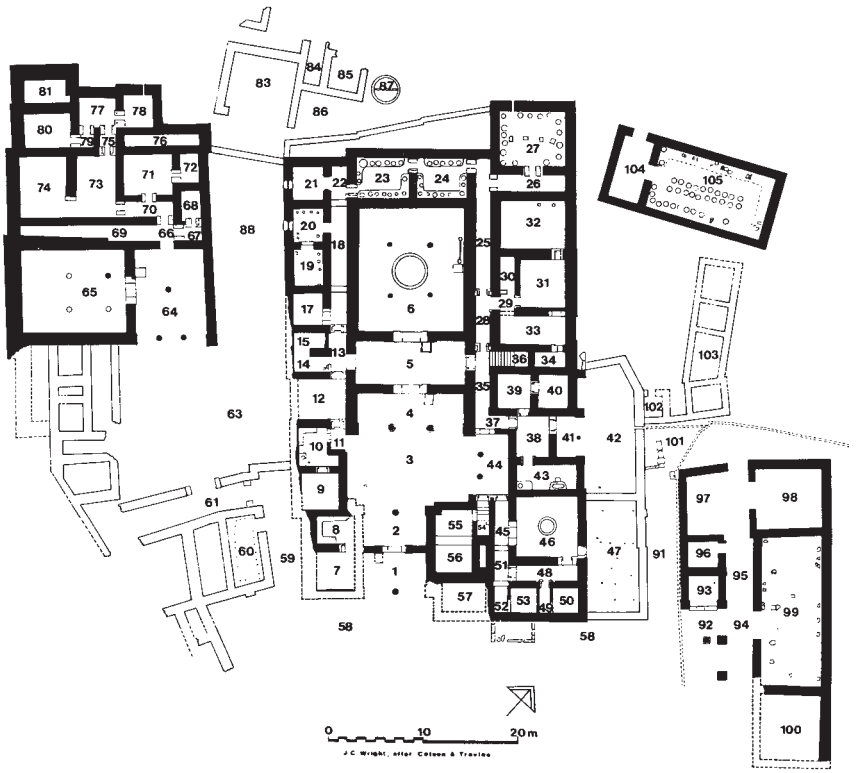


Fig. 6. The Mycenaean Palace at Pylos (Palaima/ Wright 1985, 253).

Another possible clue for the identification of the pithoi as jars for the storage of olive oil are marks of burning. If the pithoi had contained large quantities of olive oil in the destruction phase of the palace, the signs would have been visible on the pithoi themselves. No marks of excessive burning are known, but perhaps the oil season was over or the oil had already been distributed. Nonetheless, the shallow basins found in the rooms indicate that they most probably would have been used for oil storage.

On average, a pithos of 1.50 m. by 75 cm. (a radius of 0.38 cm.) has a volume ($V = \pi r^2 h$) of 680 litres. As shown by Godart, the oil payments to individuals, groups of individuals, religious officials and cult centers listed in the Oil Tablets amounts to approximately 20,573.40 litres and approximately 13,574 litres of oil were received from Cretan towns or rural areas. The pithoi in the LSS (6 x 680 litres = 4,080 litres) would have been insufficient to have stored all of the oil in the Oil Tablets. The pithoi in the rooms surrounding the LSS could have accounted for the remainder of the oil on the Oil Tablets, since the East Pillar Crypt alone would have stored 6,800 litres (10 x 680 litres = 6,800 litres).

5. ARCHIVES

Examples from other Mycenaean palatial sites will show whether the features of the LSS correspond with the general characteristics of archives or deposits (or departments).

Archives are collections of documents kept and used for reference and prediction. The term 'archives' in this region and period is used for an abundance of clay tablets that were meant to be reviewed and selected.[41] In Aegean archaeology an archive is defined as a centrally located repository, housing chronologically limited tablets in large numbers, produced by a number of scribes, covering a wide range of topics. This is attested clearly at Pylos only.[42]

By far the best comparison for Mycenaean Knossos is the palace at Pylos (*fig. 6*). The final destruction by fire of the palace at Pylos has been dated to the end of the Late Helladic IIIB-period.[43] Since the proposed dating of the tablets from the LSS roughly corresponds with LHIIIB-period, a comparison between these sets of tablets is justified. A total of 3,369 tablets were found at Knossos, compared to only 1,112 at Pylos.[44] Although they clearly employed two different scribal schools,

the administrative systems of the palaces of Knossos and Pylos are much comparable.[45] Since at Knossos there was probably no central archive and, more importantly, Knossian departments operated rather independently, some features from the Archives Complex at Pylos could have applied to the LSS.

Departments exist at Pylos as at Knossos. One major difference between Pylos and Knossos is the existence of a central archive complex at Pylos. The departments of Pylos were subordinated to central control and most of the tablets were kept in a central archive.[46] The majority of the Linear B-tablets of Pylos were found in the Archives Complex. In the Archives Complex only one Oil Tablet has been found. This tablet, Fr 1184 (made by Hand 2), was found near the lost part of the west wall of the Archives Complex.[47] Nonetheless, the archaeological remains of the Archives Complex have a few distinctive features that could shed a light on the LSS.

In the southwest corner of Room 7 of the Archives Complex stood a large pithos with lid.[48] In the context of an archive complex this pithos could be used to supply water for the working of the clay tablets. Water was used for the kneading, erasing and correcting of tablets.[49] Åström and Sjöquist have identified kneaders working in the Archives Complex by comparing palmprints on the tablets.[50]

On the east side of Room 7, 300 inscribed tablets and fragments in six or more groups were found.[51] They lay in a straight line along the reconstructed east wall of the room. They had probably fallen off some sort of shelving.[52] In the middle of Room 7, four page-shaped tablets were found. From these finds K. Pluta concludes that the archivist could have been in the process of revising the tablets on a table or another working surface.[53] Furthermore, fragments of clay tablets were found scattered on the floor of Room 7, clearly indicating that this room was a working area, the administrative office of the Archives Complex.[54]

The finds in Room 8, the northern part of the Archives Complex, support its interpretation as the filing room. Along the north, west and south walls of Room 8, benches or stands were constructed of clay or crude brick, very similar to the bench in the LSS at Knossos. The benches in Room 8 vary in height from 0.30 m. to 0.40 m. Their outer edges are rounded and the top slopes down towards the walls.[55] Some 150 inscribed tablets and fragments in differentiated groups were found on the benches and scattered over the earth floor between the benches. Tablets were also found in a heap above the disturbed earth left behind by modern looters and on the other side of the east wall of Room 8. These tablets probably had landed here as a result of the collapse of the interior door of Room 8, as postulated above.[56] The tablets from Room 8 either fell from a shelf where they were filed or already lay on the benches. Unfortunately no traces of wooden posts for shelving have been discovered. Together with some of the tablets, labels were found that carry traces of wicker baskets.

Some tablets bear the marks of ribbons or strings with which they were tied up in a bundle. The tablet bundles could have been stored in wooden boxes. The fragments of bronze hinges found in this deposit could have belonged to such a wooden casing for these tablets or to a *diptych*. According to Shear, bronze hinges in the palace of Knossos probably belonged to these writing tablets and not to wooden storage boxes for tablets. Shear states: 'Had the Linear B-tablets also been customarily stored in wooden boxes, traces of such boxes with their hinges should also have been discovered in some of the other deposits.'[57]

6. DEPOSITS

Small groups of tablets do not meet the technical definition of an 'archive'.[58] The term used for these small sets of tablets is a deposit. As stated earlier, in Knossos these deposits were found to originate from a (specialised) department.

6. 1. A deposit in Thebes (Kadmeion Palace)

Excavations conducted at Thebes brought to light the remains of a Mycenaean palatial site, the 'Kadmeion Palace'. Parts of this palatial area contained deposits of tablets.

The set of Of tablets is a good example of a Theban deposit. The Of tablets, published in 1975, were found in a three-room building at the corner of Epaminondas and Metaxas Streets. The building was in use throughout LHIIIB. The presence of coated deep bowls coupled with the absence of clear LHIIIC features confirms its destruction at about the LHIIIB/IIIC transition.[59] The Of tablets record LANA (wool).[60]

Between 1993 and 1995 more tablets were found, approximately 50 in number. Most of them are page-shaped, but also leaf-shaped tablets were found. They had apparently fallen with the inscribed surface facing down. In the same area pieces of burnt wood, broken mud-bricks, roof tiles and small quantities of pottery were discovered.

Two spherical objects the size of an egg were found with the tablets, made from exactly the same clay as the tablets, probably waiting to be used for the modelling of tablets. Many fingerprints are clearly visible on their surface, making it probable they were destined to be made into tablets. A floor of trodden clay and little brown pebbles was found, as well as decorated and non-decorated pottery. The pottery found with the tablets on the floor provides a good clue for the dating of the destruction of the building housing the tablets. It can be attributed to the final phase of the LHIIIB2-period.[61]

The new tablets were found in a religious context and record cloth (TELA), wheat (GRA), olives (OLIV), personnel (VIR), barley (HORD) and wine (VIN).[62]

6.2. The Southwestern Building at Pylos

The Southwestern Building at Pylos is another good example of a deposit (*fig. 6*). Tablets concerned with textiles *146 and/or *166+WE may have been associated with this building, in particular with the partially preserved rooms southeast of Hall 65. The other finds from this area shed no light on the function of the rooms with which the tablets were probably associated.[63]

The building housed the so-called Southwestern Administrative Department. The textile-tablets found here are both distribution and inventory records. The distribution records describe garments entering the palace as tax contributions and the inventory tablets record how the garments were used. The limited focus of these tablets is characteristic of administration deposits and departments.[64]

6. 3. The Northeastern Building at Pylos

The Northeastern Building at Pylos resembles a Knossian 'department' (*fig. 6*). At first it was believed to be a prime example of a connection between Aegean Bronze Age religion and industry. Recently it has been argued that the Northeastern Building at Pylos was a department with a redistributive function.[65]

The Linear B-data show involvement of the Northeastern Building in large-scale movement of personnel. There is no evidence to support the view that any of the personnel listed in the tablets had actually been working in this building. The tablets mention a wide variety of occupations and commodities. Finds and architecture indicate that the Northeastern Building was a major storage facility, perhaps especially for weaponry. The variety and scope of goods and occupations suggest a clearinghouse rather than a workshop. The large number of sealings supports this interpretation. The distribution of sealings at Pylos suggests that goods meant for the palace as a whole entered this building. Strong scribal connections between the Northeastern Building and the Archives Complex further support this conclusion.[66]

The Northeastern Building was one of the physical locations through which such redistribution took place at Pylos. The Mycenae West House Group, in the eyes of L. Bendall, served a similar purpose for the palace at Mycenae.[67] This group of buildings will be dealt with in the part of this article dedicated to storerooms.

Bendall suggests that redistributive areas were standard palatial features: 'Redistributive centers were not precisely "offices" in the sense of being groups of persons dedicated to particular united activities or industries. They were sites for the receipt of goods and personnel management, and might involve various branches of administration as need arose. It might be possible to further define Olivier's classifications of bureaux in this light, with particular attention to interaction between administration and storage.'[68]

7. STOREROOMS AND MAGAZINES FOR OIL

In the LSS, oil tablets and oil storage vessels were found in the same context. To determine whether the practice of storing oil in a room that also holds oil tablets was a common feature in the Mycenaean period, a few examples of other oil storage rooms are discussed.

7. 1. Oil tablets and oil storerooms at Pylos

The majority of the Oil Tablets or Fr-tablets at Pylos was stored in Room 23, 38 and 32 (*fig. 6*). These Fr-tablets record the quantities processed oil present in the palace storerooms (Fr [1200], 1201, 1203, [1208]), the quantities of oil disbursed (for religious purposes) and the quantities of oil still owed to the palace (Fr 1241, 1206)[69]. Most of the Oil Tablets from Pylos also mentioned the name of a perfumed oil. This leads C. Shelmerdine to believe that these tablets were the records of the perfume industry of Pylos. The Oil Tablets of Pylos and the Fh-tablets from the LSS at Knossos, record both directions of the disbursement of oil. The Oil Tablets from both palaces are therefore highly comparable.

The room in the palace at Pylos where 32 of the

49 Oil Tablets were found, is Room 23. This room, like Room 24, is one of the principal oil storerooms in the palace, with pithoi set into benches. These pithoi still contained the residue of oil. Only a few fragments of kylikes and conical cups lay in Room 23. According to Shelmerdine the scarceness of the pottery is characteristic for a storeroom. Besides the Linear B-tablets another interesting discovery was made in this room. Some twists of clay were also found here, directly on the pithoi bench. The only other twist of clay known from Pylos lay on the floor of the Archives Complex. The discovery of these twists of clay means that the Oil Tablets in Room 23 were not only brought here for storage (as is usually the case at Pylos), but were actually manufactured and written in this room.[70] All tablets found in Room 23 record orders for oil.[71] According to Th. Palaima, the tablets and sealings from the Oil Storerooms were grouped in rough sets, undoubtedly as work took place, and then set aside without labels.[72]

Room 24 did not yield any tablets but contained the hanging nodule Wr 1437 [54] with the ideogram AREPA, 'ointment oil' and document Wn 1247 bearing *a_3-wo-di-jo-no*, possibly a personal name in the genitive. They both may have functioned as labels of jars filled with oil, sent by a specific individual coming from the palace periphery.[73]

It is evident that the storage of oil and Oil Tablets was combined at Pylos. Oil Tablets were even manufactured and written in a storage room, Room 23[74].

7. 2. Oil storage and MY Fo 101 in the House of the Oil Merchant at Mycenae

The West House group of buildings at Mycenae was a storage depot for the palace administration.[75] This group of buildings is remarkable for the fact that it contained Linear B texts though it is outside the main palace complex of Mycenae. Some of the tablets relate to the contents of the house in which they were found. The excavated area is the basement of this group of rooms. Goods were stored both in the basement and probably also on the ground floor above. Most of the administration took place on the ground floor.[76]

The House of the Oil Merchant is a substantial house used for domestic and official purposes (*fig. 7*). A storeroom function can be assigned to all the basement rooms.[77] The owners or occupants of the house acted on behalf of the palace (and probably received a percentage profit), while

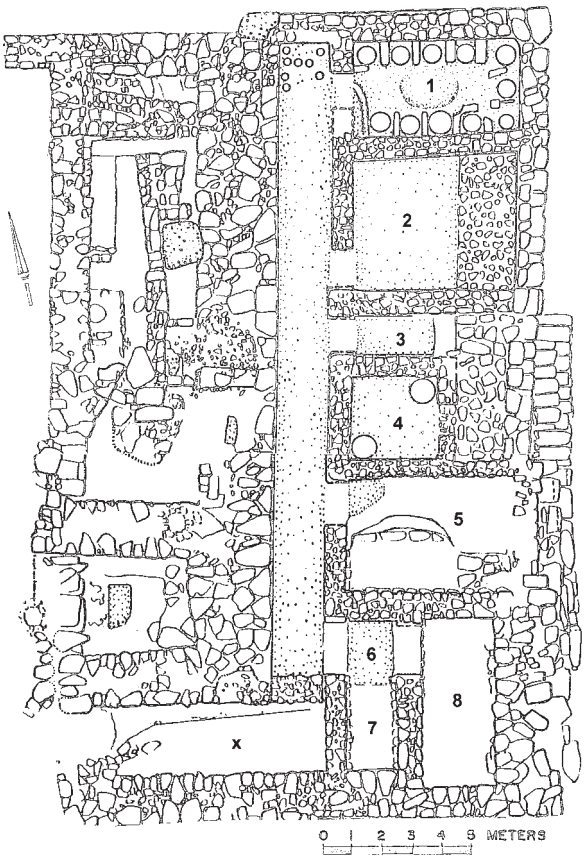


Fig. 7. The House of the Oil Merchant at Mycenae (map in Tournavitou 1995).

the central authority directly employed any craftsmen working on the premises.[78] Linear B-tablets were scattered on the floors of this basement house, mostly in a single area of the building, Room 2. The context of the tablets suggests that they had originally been part of the contents of the upper floor, with the exception of Fo 101. This tablet was the only tablet in the houses dealing with the securely identified ideogram *130 for oil. It was discovered in Room 1 of the House of the Oil Merchant, behind a pithos in the NE corner.[79] Room 1 and Room 4 are storerooms for a liquid commodity, probably oil of the House of the Oil Merchant. Room 1 is clearly the principle storeroom of the house, because of its heating installation, its plastered floor and oval oil reservoir and because it contained eleven large pithoi.[80]

The oil tablet Fo 101 (Scribe 53) records allocations of oil (OLE + WE) to women, listed individually or in groups. The total amount of oil recorded is 86 l or 77.4 kg, easily held in one of the pithoi of Room 1.[81] I. Tournavitou draws an

interesting conclusion for the House of the Oil Merchant on the basis of the content of Fo 101: 'The character of this record suggests that the building could have functioned as a depot, a clearing house for oil which arrived either from the vicinity or from abroad or both, and was temporarily kept there to be allocated eventually to different groups or individuals for industrial, personal or even religious purposes. Although Room 1 was not large enough to be one of the main palace storerooms, it could have been one of the secondary units operating outside the walls.[82]

8. CONCLUSIONS

The LSS, like the Mycenaean buildings excavated in the center of Thebes, is a specialized department. Like most Knossian departments, the LSS has a distinct function in the Knossos redistributive system, dealing solely with olive oil.

From within the LSS six pithoi, a stirrup jar and a deposit with oil tablets, sealings and charred wood were unearthed. These artefacts all come from the same stratum, dating from the late Mycenaean period, roughly from LMIIIB. The Oil Tablets found in the LSS (the Fh and Fp-series) are the records of oil demanded from Cretan towns in the Knossos area, indicated by a place-name (toponyme) and of oil payments to individuals, groups of individuals, religious officials and cult centers. The Oil Tablets are most likely to be contemporary with the remaining Linear B-tablets from Knossos.

The Oil Tablets were part of a concentrated deposit with charred wood and sealings, found next to a bench. The find place and the degree of concentration of the deposit, makes it likely the Oil Tablets had been stored in a wooden box on shelving. As in the Archives Complex at Pylos, the bench beside which the tablets and other finds were discovered must have been related to the tablets or the administrative system.

Excavations at Pylos and Thebes have yielded several finds from which the conclusion can be drawn that filing rooms for tablets sometimes functioned as a workshop for producing tablets as well. Among these finds are twists of clay and a pithos. Tablets are possibly made from the twists of clay. A pithos in the Archives Complex at Pylos could have contained water, also useful for the kneading of clay. In the LSS at Knossos, there is enough room to accommodate a working area, like Room 7 of the Archives Complex at Pylos. Unfortunately, on the floor of the LSS no fragments of tablets or clay twists were found and the existence of a pithos in this room alone is insufficient evidence to conclude that the Oil Tablets had been manufactured in the LSS.

The rooms surrounding the LSS were storage rooms that were probably in use when the Oil Tablets were written. Although no remains of olive oil were found, all pithoi from this area were probably used for the storage of olive oil. Shallow basins for the collection of olive oil are also a common feature in this part of the palace, indicating that the pithoi most probably would have been used for oil storage, much like rooms 23 and 24 at Pylos. The pithoi in the LSS and the rooms surrounding the LSS have enough volume to have contained the amounts of oil mentioned in the Oil Tablets. Presumably, the small oil payments, as recorded in the Oil Tablets, were carried out in the LSS itself. Given the fact the LSS is accessible through a small series of steps from the Central Court, this administrative department for olive oil would probably have been used as a small redistributive area. Its position near the Central Court makes the administration and the delivery of oil very efficient.

The Northeastern Building at Pylos has recently been described as a clearinghouse or a redistributive area, because of the wide variety of goods and the movement of a great number of personnel that appear in the tablets connected to the area. Even though the House of the Oil Merchant at Mycenae only stores and records one type of commodity, it has still been labelled a clearinghouse. As both the House of the Oil Merchant and the LSS combine administration, storage and easy access - in my view the main requirements for a redistributive area - to both rooms a redistributive function can be assigned.

The pithoi in the LSS and its surrounding rooms have a combined volume large enough to have stored the small amounts of olive oil allocations in the Oil Tablets. I therefore argue that the LSS was not only used to store the oil, but also to actually distribute these small amounts of oil directly from its pithoi. The volume of olive oil allocated corresponds to a large extent to the olive oil paid by Cretan towns to the palace. I believe the administrative department of the LSS is easily accessible from the LSS in order to facilitate this handling of olive oil. In my view the LSS meets the main requirements for a redistributive area. It seems therefore feasible that recording and redistribition of olive oil took place in this room, making it a fine example of a Knossian redistributive area.

NOTES

1 This paper is an elaboration of a part of my Master's thesis (Leiden University). I am very much indebted to F.T. van Straten and P. Stork for their enthusiasm and guidance. I would also like to thank W. Ledeboer (Netherlands Institute at Athens) and E. Chatzaki (former curator at Knossos), who made my visit to the Palace of Knossos possible. Finally, I would like to express my gratitude to Richard Firth for playing devil's advocate and for his comments on an earlier version of this paper.
2 Shelmerdine 1997, 567. There were probably also local centers for smaller scale redistribution.
3 Driessen 1994-1995, 241. In its administrative system Knossos dealt with other places both within its immediate area and outside it, some as second-order centers for local distribution of goods. These second order-centers have been identified in Linear B-tablets from Knossos as Amnisos, *se-to-i-ja*, Phaistos, *da-*22-to* and *ku-ta-to* (Bennet 1989).
4 Shelmerdine 1999, 567.
5 Shelmerdine 1998-1999, 313.
6 Shelmerdine 1999, 568.
7 Olivier 1984, 17-18; Driessen 1999, 205-227; 2000.
8 Driessen 1990, 69.
9 Panagiotaki 1999, 267.
10 Evans 1899-1900, 28.
11 Hallager 1977, 81.
12 Firth 2000-2001, 205.
13 Firth 2000-2001, 260-278.
14 Firth 2000-2001, 205.
15 Popham/Gill 1997, 14.
16 Evans 1899-1900, 28; Firth 1996-1997, 22.
17 Driessen 1997, 118-119.
18 Boardman 1963, 70; Firth 2000-2001, 203.
19 Driessen 1990, 70-71; Firth 2000-2001, 204.
20 Linear B-tablets were given certain categories. In Knossos, oil tablets are described by the letters Fh, Fp, Fs and F. The distinction between these categories is of no importance for this study, since only two categories of oil tablets, namely Fh and Fp, were found in the LSS. In Pylos, oil tablets were given the letters Fa, Fg, Fn and Fr (Hooker 2001, 36). For an account of all Knossos' Fh-tablets and Fp-tablets, see R. Firth's review article on the findplaces of the Knossos Tablets (Firth 2000-2001, 205).
21 Driessen 1990, 70-72; Firth 2000-2001, 205.
22 Certain Linear B-tablets from Pylos, for instance Fr 1184, make clear that ideogram *130 should be interpreted as the sign for olive oil. On this tablet, in one sentence, the ideogram *130 and the word ἔλαιον were written. This last word clearly resembles the Greek word ελαιον, for olive oil.
23 Hiller/Panagl 1976, 155-160.
24 Driessen 1990, 72.
25 Godart 1969, 64-65; Hiller/Panagl 1976, 155-160.
26 Godart 1987, 202. Lisa Bendall has calculated that there is a bias in all Knossos Oil Tablets, the Fs tablets from the Clay Chest are also included, towards recording religious offerings. 40% of the oil recorded on Knossos disbursement tablets is allocated for religion (Bendall 2001, 449). Although I have no doubts as to the validity of her calculations, I have trouble finding this percentage high enough for any strong conclusions to be drawn.
27 Hallager 1977, 71.
28 Godart 1987, 203. Perhaps the small oil payments to individuals were carried out in the LSS itself.
29 Godart 1987, 210.
30 Olivier 1967, 105, 106, 110.
31 Kyriakidis 1998-1999, 202.
32 Perfumed oil can be made by combining oil with aromatic herbs (Hiller/Panagl 1976, 170). In the upper storey of the West Wing, the House Tablets, on which aromatic herbs for the manufacture of perfumed oil are recorded, were stored. Largely based on the coincidental fact that the Oil Tablets and the House Tablets share a word or a name of a collector, *ku-pi-ri-jo*, Olivier, Shelmerdine and Godart have concluded that both series of tablets must have belonged to the same administrative office (Olivier 1967; Godart 1969, 65; Shelmerdine 1988, 345).
33 Coming from the upper-floor, the 'Piano Nobile', one could also have gained access to the rooms connected to the LSS from the Long Corridor.
34 The Room of the Chariot Tablets (RCT) has been studied thoroughly by J. Driessen (Driessen 2000). Other rooms to the west and northwest of the LSS could also have been used for storage, since their shape excludes other functions. Since hard evidence is lacking, these rooms are not discussed in this study.
35 Panagiotaki 1999, 240-241.
36 Palmer 1969, 55.
37 In the palace of Mallia an even more intricate system was constructed to avoid loss of oil through spilling. Here, in each storeroom, a system of furrows and channels directed the oil into a clay jar, imbedded so that its rim was level with the cement floor (Graham 1987, 131).
38 Most sealings of the 'Goddess on the Mountain Peak'-set were found in the Tripartite Shrine, the small space between the LSS and the Central Court. It is uncertain which sealing from this set was found in the Room of the Tall Pithos (Driessen 1990, 73; Panagiotaki 1999, 267-268).
39 Palmer 1969, 55.
40 Palmer 1963, 87; Panagiotaki 1999, 267-268. Tablet Gg 711 probably fell from the upper floor (Firth 2000-2001, 205).
41 Driessen 1994-1995, 244.
42 Driessen 1999, 205-227; Shelmerdine 1999, 564.
43 Palaima 1984, 32.
44 Olivier 1984, 13.
45 Hooker 1987, 315.
46 Shelmerdine 1999, 568.
47 Shelmerdine 1985, 23.
48 An unglazed *pithos* cools the liquid inside by letting it *breathe* through the pores in the baked clay of the pot. Perhaps a lid enhances this cooling system, thereby reducing evaporation.
49 Pluta 1996-1997, 246.
50 Åström/Sjöquist 1987, 317.
51 Blegen/Rawson 1966, 92.
52 Pluta 1996-1997, 242.
53 Pluta 1996-1997, 244-245.
54 The finds from Room 7 and 8 were located in the same *stratum* and are therefore remnants of a single period of occupation. (Pluta 1996-1997, 248).
55 Blegen/Rawson 1966, 96.
56 Blegen/Rawson 1966, 96-97.
57 Blegen/Rawson 1966, 97-98; Shear 1998, 187-189.
58 Shelmerdine 1997, 387.
59 Shelmerdine 1997, 387.

[60] Melena/Olivier, 1991, 35-37.
[61] Aravantinos 1999, 51.
[62] Aravantinos 1999, 52-74. One of these tablets, TH Av 106, is in content and form very similar to the 'Great Tablet' from Knossos, KN As 1516. (Aravantinos 1999, 62-63).
[63] Shelmerdine 1998-1999, 312.
[64] Shelmerdine 1998-1999, 335.
[65] Teygey 1984, 79; Bendall 2003.
[66] Bendall 2003, 224.
[67] Bendall 2003, 224.
[68] Bendall 2003, 226.
[69] Shelmerdine 1985, 63. Oil tablets from Pylos (the Fr-series) are more similar to the oil tablets from the Clay Chest from Knossos (Fs-series), than to the Knossos Fp- and Fh-series from the LSS. In both the Fr-series from Pylos and the Fs-series from Knossos a designation of time is usually included and both are mainly associated with allocations to religious personnel, divinities or cult centers (Bendall 1998-1999, 2).
[70] Shelmerdine 1985, 118-119, 69-70; Palaima 1988, 162.
[71] Kyriakidis 1996-1997, 216.
[72] Flouda 2000, 233. The inscribed Wr and Wn nodules were used as devices for monitoring the collection of a variety of resources (incoming tribute) and products to be stored, mainly animal hides and wine, but also textiles and oil (Flouda 2000, 234-235).
[73] Flouda 2000,233. The inscribed Wr and Wn nodules were used as devices for monitoring the collection of a variety of resources (incoming tribute) and products to be stored, mainly animal hides and wine, but also textiles and oil (Flouda 2000, 234-235).
[74] While tablets are occasionally found in storerooms, the majority of the identified workshops do not contain any tablets and sealings. No tablets describing the workshop activity are known from within a workshop (Tournavitou 1988, 456; Shelmerdine 1997, 387).
[75] The West House group was destroyed by a sudden and violent fire in the middle of the LHIIIB period (Tournavitou 1995, 298).
[76] Shelmerdine 1999, 569; Tournavitou 1995, 257.
[77] Tournavitou 1995, 289.
[78] Tournavitou 1995, 298.
[79] Tournavitou 1995, 257-258, 266.
[80] Tournavitou 1995, 289.
[81] Tournavitou 1995, 267; Shelmerdine 1999, 572; Melena/Olivier 1991, 56.
[82] Tournavitou 1995, 267.

BIBLIOGRAPHY

Aravantinos, V. 1999, Mycenaean Texts and Contexts at Thebes: The Discovery of New Linear B Archives on the Kadmeia, in S. Deger-Jalkotzy/S. Hiller/O. Panagl (eds.), *Floreant Studia Mycenaea*, Vienna, 45-78.

Åström, P./K.-E. Sjöquist 1987, The Scribes and their Helpers in the Palace at Pylos, in R. Hägg/N. Marinatos (eds.), *The Function of Minoan Palaces*, Göteborg, 317-318.

Begg, D.J.I. 1987, Continuity in the West Wing at Knossos, in R. Hägg/N. Marinatos (eds.), *The Function of Minoan Palaces*, Göteborg, 180-184.

Bendall, L.M. 1998-1999, A time for offerings: dedications of perfumed oil at Pylian Festivals, in J. Bennet/J.M. Driessen (eds.), *A-NA-QO-TA. Studies Presented to J.T. Killen. Minos* 33-34, 1-9.

Bendall, L.M. 2001, The economics of Potnia in the Linear B documents: palatial support for Mycenaean religion, in R. Laffineur,/R. Hägg (eds.), *Potnia. Deities and Religion in the Aegaean Bronze Age. Aegaeum* 22, 445-450.

Bendall, L.M. 2003, A Reconsideration of Northeastern Building at Pylos, *AJA* 107, 181-231.

Bennet, J. 1985, The Structure of the Linear B Administration at Knossos, *AJA* 89, 231-250.

Blegen, C./M. Rawson 1966, *The Palace of Nestor at Pylos in Western Messenia* I, *The Buildings and their Contents*, Princeton.

Boardman, J. 1963, The Date of the Knossos Tablets, in *On The Knossos Tablets*, Oxford.

Chadwick, J., et al. 1986, *Corpus of Mycenaean Inscriptions from Knossos* I, Cambridge/Rome.

Driessen, J.M. 1990, *An Early Destruction in the Mycenaean Palace at Knossos. A New Interpretation of the Excavation Field-Notes of the South-East Area of the West Wing*, Leuven.

Driessen, J.M. 1994-1995, Data Storage for Reference and Prediction at the Dawn of Civilization?, *Minos* 29-30, 239-256.

Driessen, J.M. 1997, Le palais de Cnossos au MRII-III: combien de destructions?, in J.M. Driessen/A. Farnoux (eds.), *La Crète Mycénienne* (BCH Supplément 30), Athens, 113-134.

Driessen, J.M. 1999, The Northern Entrance Passage at Knossos. Some Preliminary Observations on its Potential Role as "Central Archives", in S. Deger-Jalkotzy/S. Hiller/O. Panagl (eds.), *Floreant Studia Mycenaea*, Vienna, 205-227.

Driessen, J.M. 2000, *The Scribes of the Room of the Chariot Tablets at Knossos. Interdisciplinary Approach to the Study of a Linear B Deposit* (Suplementos a Minos 15), Salamanca.

Evans, A.J. 1899-1900, Knossos. The Palace, *BSA*, 3-70.

Firth, R.J. 1996-1997, The Findplaces of the tablets from the Palace of Knossos, *Minos* 31-32, 7-122.

Firth, R.J. 2000-2001, A Review of the Find-places of the Linear B Tablets from the Palace of Knossos, *Minos* 35-36, 63-291.

Flouda, G.S. 2000, Inscribed Pylian Nodules: Their use in the administration of the storerooms of the Pylian Palace, *Studi Micenei ed Egeo-Anatolici*, 213-245.

Graham, J.W. 1987, *The Palaces of Crete*, Princeton.

Godart, L. 1969, La série Fh de Cnossos, *SMEA* 8, 39-65.

Godart, L. 1987, La série Fh de Cnossos, vingt ans après, in *Studies in Mycenaean and Classical Greek Presented to John Chadwick. Minos* 20-22, 201-210.

Hallager, E. 1977, *The Mycenaean Palace at Knossos. Evidence for Final Destruction in the LMIIIB Period*, Stockholm.

Higgins, R. 1973, *The Archaeology of Minoan Crete*, London/Sydney/Toronto.

Hiller, S./O. Panagl 1976, *Die Frühgriechischen Texte aus mykenischer Zeit: zur Erforschung der Linear-B Tafeln*, Darmstadt.

Hood, M.S.F./D.Taylor 1981, *The Bronze Age Palace at Knossos: Plan and Sections* (BSA Supplementary Volume 13), Oxford/London/Northampton.

Hooker, J.T. 1987, Minoan and Mycenaean Administration: A Comparison of the Knossos and Pylos Archives, in R. Hägg/N. Marinatos (eds.), *The Function of Minoan Palaces*, Göteborg, 313-315.

Hooker, J.T. 2001, *Linear B. An Introduction*, Bristol.

Kyriakidis, E. 1996-1997, Some Aspects of the Role of Scribes in Pylian Palace Administration, *Minos* 31-32, 201-230.

Kyriakidis, E. 1998-1999, Scribes treated as criminals: A note on the study of palm and fingerprints on the Linear B tablets of Knossos, *Minos* 33-34, 197-204.

Melena, J.L./J.-P. Olivier 1991, *TITHEMY, The tablets and nodules in Linear B from Tiryns, Thebes and Mycenae* (Suplementos a Minos 12), Salamanca.
Olivier, J.-P. 1967, *Les Scribes de Cnossos*, Rome.
Olivier, J.-P. 1984, Administrations at Knossos and Pylos: What Differences, in T.G. Palaima/C.W. Shelmerdine (eds.), *Pylos Comes Alive, Industry+Administration in a Mycenaean Palace*, New York, 11-18.
Palaima, T.G. 1984, Scribal Organization and Palatial Activity, in T.G. Palaima/C.W. Shelmerdine (eds.), *Pylos Comes Alive, Industry+Administration in a Mycenaean Palace*, New York, 31-39.
Palaima, T.G./J.C. Wright 1985, Ins and Outs of the Archives Rooms at Pylos: Form and Function in a Mycenaean Palace, *AJA* 89, 251-262.
Palaima, T.G. 1988, *The Scribes of Pylos*, Rome.
Palaima, T.G. 2000, The Palaeography of Mycenaean Inscribed Sealings from Thebes and Pylos, Their Place within the Mycenaean Administrative System and their links with the extra-palatial sphere, in W. Müller (ed.), *Corpus der Minoischen und Mykenischen Siegel, Beiheft 6. Minoisch-mykenische Glyptik. Stil, Ikonographie, Funktion*, Berlin, 219-238.
Palmer, L.R. 1963, The Findplaces of the Knossos Tablets, in *On The Knossos Tablets*, Oxford.
Palmer, L.R. 1969, *A New Guide to the Palace of Knossos*, London.
Panagiotaki, M. 1999, *The Central Palace Sanctuary* (BSA Supplementary Volume 31), Oxford.
Pendlebury, J.D.S. 1969 (reprint), *A Handbook to the Palace of Minos. Knossos and its dependencies*, London.
Pluta, K. M. 1996-1997, A Reconstruction of the Archives Complex at Pylos: A Preliminary Report, *Minos* 31-32, 231-250.
Popham, M.R./M.A.V. Gill 1997, *The Latest Sealings from the Palace and Houses at Knossos* (BSA Studies I), Oxford.
Shear, I.M. 1998, Bellerophon tablets from the Mycenaean world? A tale of seven bronze hinges, *JHS* 118.
Shelmerdine, C.W. 1985, *The Perfume Industry of Mycenaean Pylos*, Göteborg.
Shelmerdine, C.W. 1988, Scribal Organisation and Administrative Procedures, in J.-P. Olivier/Th.G. Palaima (eds.), *Texts, tablets and scribes*, Salamanca, 343-385.
Shelmerdine, C.W. 1997, Workshop and Record Keeping in the Mycenaean World, in R. Laffineur/P.P. Betancourt (eds.), *TEXNH, Craftsmen, craftswomen and craftsmanship in the Aegean Bronze Age* II, Eupen, 387-395.
Shelmerdine, C.W. 1998-1999, The southwestern department at Pylos, *Minos* 33-34, 309-337.
Shelmerdine, C.W. 1999, A Comparative Look at Mycenaean Administration(s), in S. Deger-Jalkotzy/S. Hiller/O. Panagl (eds.), *Floreant Studia Mycenaea*, Vienna, 555-576.
Teygey, I. 1984, The northeast workshop at Pylos, in T.G. Palaima/C.W. Shelmerdine (eds.), *Pylos Comes Alive, Industry+Administration in a Mycenaean Palace*, New York, 65-79.
Tournavitou, I. 1995, *The "Ivory Houses" at Mycenae* (BSA Supplementary Volume 24), London.
Veenhof, K.R. 1986, *Cuneiform Archives and Libraries*, Istanbul.
Warren, P./V. Hankey 1989, *Aegean Bronze Age Chronology*, Bristol.

HOPAKKER 162
NL-3514 BZ UTRECHT
guiot@geo.uu.nl/
guiot.duermeijer@gmail.com

BABesch 81 (2006, 13-29. doi: 10.2143/BAB.81.0.2014422)

The Pre-colonial Phoenician Emporium of Huelva ca 900-770 BC

F. González de Canales, L. Serrano & J. Llompart

Abstract

A large assemblage of materials, dating to ca 900-770 BC, was found during rescue excavations in the city of Huelva. It included several thousand Phoenician and autochthonous ceramics and a group of Attic Middle Geometric, Euboeo-Cycladic Subprotogeometric, Sardinian, Cypriot and Villanovan pottery. Waste materials of ivory, bone, wood and probable stone (agate), copper, silver and iron have also been documented. In addition, Phoenician weights, baetyls and a tin sheet, probably used in the manufacture of bronze were discovered. These finds have implications for our understanding of the pre-colonial period at the beginning of the first millennium BC and once again raise the much debated question of the identity of the biblical Tarsis in I Kings *10, 22.**

INTRODUCTION[1]

The modern harbour city of Huelva (ca 140.000 habitants) lies in the South-West of Spain near the Riotinto mining area. Archaeologically, it presents the problems of a modern city, covering the ancient one, with a swift development during the last forty years. In the immediate proximity there are some Final Neolithic and Middle Bronze Age remains. During the first half of the first millennium BC it was the site of an autochthonous-Phoenician community. From the late 7th century BC the Greeks knew this city as the emporium of Tartessos (with its king Argantonios). The new excavations have given conclusive evidence for the existence of a Phoenician emporium already in the 9th century BC, the earliest in the West to date.

THE SITE AND FIND CIRCUMSTANCES

In 1998, rescue excavations were conducted in anticipation of urban restructuring works on a terrain of 2,145 m² in the city of Huelva (Plaza de las Monjas 12/Calle Méndez Núñez 7-13; see map). During these investigations, levels of the first half of the 7th century BC were reached. Deeper levels were left untouched because ground water appeared. However, when the terrain was pumped dry some time after, this offered the unique possibility to follow up the works and document the oldest occupation levels in this part of the city. The construction firm fenced off the spot with enormous concrete screens and, after the evacuation of the water, proceeded to extract the earth, permitting us to observe the full stratigraphy in some areas. Based on the resulting knowledge of the lowest layer with human artefacts, situated between about -5 and -6 m and at 2.5 m below the water table, we were able to control the extraction of part of the earth from this layer and recover its materials in a secondary position. The results may be qualified as fortunate, since the very compactness and stickiness of the muddy earth, which formed the stratum, in combination with a characteristic greyish-black colour, favoured its clear distinction from the upper levels. Contamination of the extracted material with later finds can, therefore, be practically discounted. Similarly, the possibility of intrusive material from possible lower anthropogenic levels can be excluded, since virgin soil was encountered directly below. The results presented here, could never have been reached in a regular excavation using the normal archaeological methods, since the mixture of mud and sand in the water would have left any attempt to establish a neater stratigraphical sequence futile. The microscopic analysis of the sediments from this earliest level showed it to consist of fine grained material from estuary sediment, typical plant remains of a salt marsh area and numerous arthropod remains.

THE POTTERY

The detailed study of the ceramic finds took into consideration all diagnostic fragments that would enable us to identify the type of vessel within each category. We also considered other fragments of interest, particularly for their decoration. When two or more fragments were found to join, we counted them as one.

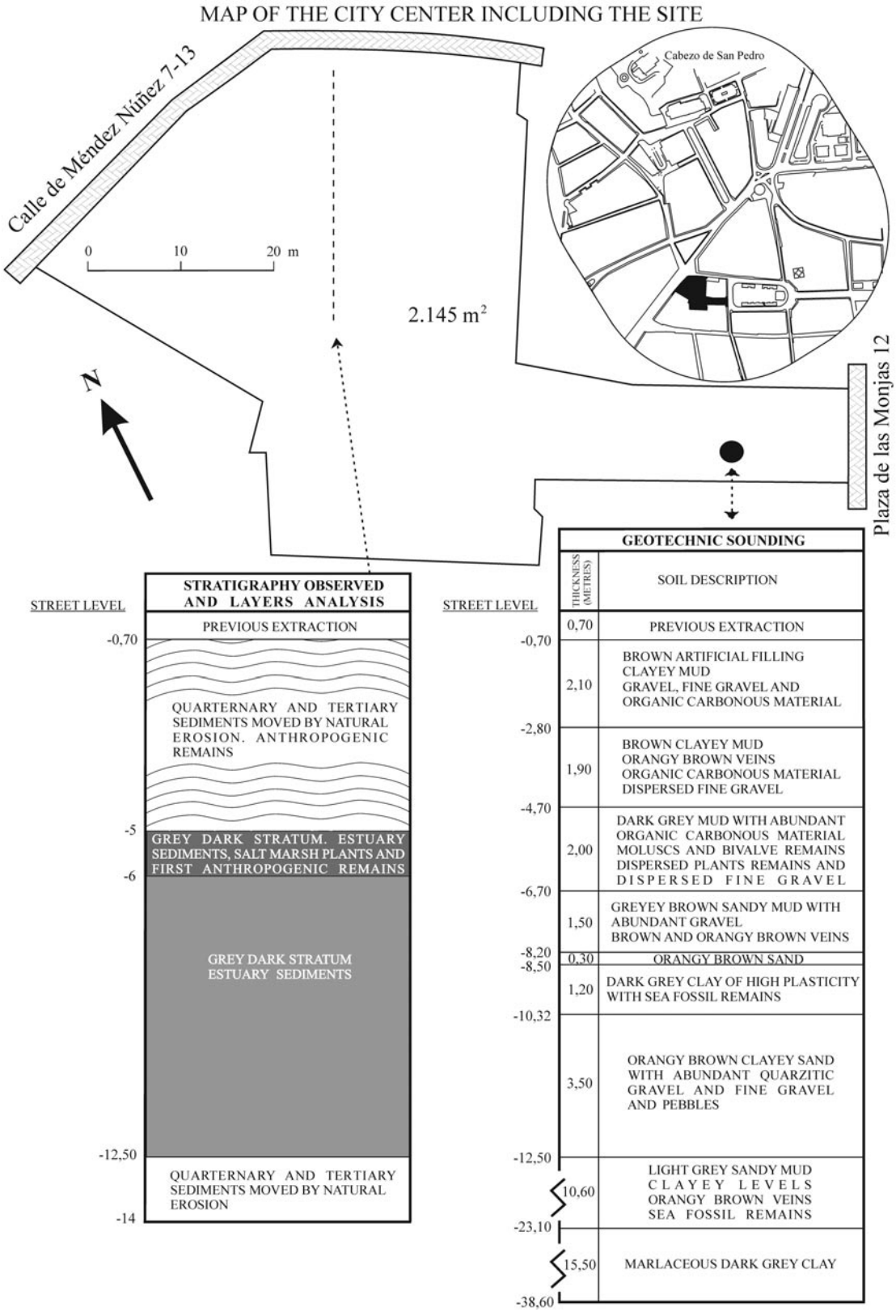

MAP OF THE CITY CENTER INCLUDING THE SITE
Calle de Méndez Núñez 7-13
Cabezo de San Pedro
0
10
20 m
2.145 m²
N
Plaza de las Monjas 12
STRATIGRAPHY OBSERVED AND LAYERS ANALYSIS
STREET LEVEL
PREVIOUS EXTRACTION
-0,70
QUARTERNARY AND TERTIARY SEDIMENTS MOVED BY NATURAL EROSION. ANTHROPOGENIC REMAINS
-5
GREY DARK STRATUM. ESTUARY SEDIMENTS, SALT MARSH PLANTS AND FIRST ANTHROPOGENIC REMAINS
-6
GREY DARK STRATUM ESTUARY SEDIMENTS
-12,50
QUARTERNARY AND TERTIARY SEDIMENTS MOVED BY NATURAL EROSION
-14
GEOTECHNIC SOUNDING
STREET LEVEL
THICKNESS (METRES)
SOIL DESCRIPTION
0,70
PREVIOUS EXTRACTION
-0,70
2,10
BROWN ARTIFICIAL FILLING
CLAYEY MUD
GRAVEL, FINE GRAVEL AND
ORGANIC CARBONOUS MATERIAL
-2,80
1,90
BROWN CLAYEY MUD
ORANGY BROWN VEINS
ORGANIC CARBONOUS MATERIAL
DISPERSED FINE GRAVEL
-4,70
2,00
DARK GREY MUD WITH ABUNDANT
ORGANIC CARBONOUS MATERIAL
MOLUSCS AND BIVALVE REMAINS
DISPERSED PLANTS REMAINS AND
DISPERSED FINE GRAVEL
-6,70
1,50
GREYEY BROWN SANDY MUD WITH
ABUNDANT GRAVEL
BROWN AND ORANGY BROWN VEINS
-8,20
0,30
ORANGY BROWN SAND
-8,50
1,20
DARK GREY CLAY OF HIGH PLASTICITY
WITH SEA FOSSIL REMAINS
-10,32
3,50
ORANGY BROWN CLAYEY SAND
WITH ABUNDANT QUARZITIC
GRAVEL AND FINE GRAVEL
AND PEBBLES
-12,50
10,60
LIGHT GREY SANDY MUD
CLAYEY LEVELS
ORANGY BROWN VEINS
SEA FOSSIL REMAINS
-23,10
15,50
MARLACEOUS DARK GREY CLAY
-38,60

Fig. 1. Jug Tyre type 8.

Fig. 2. Jug Sarepta type DJ-11.

Fig. 3. Jug Tyre type 10.

Fig. 4. Jug Tyre type 7.

Fig. 5. Jug Tyre type 9.

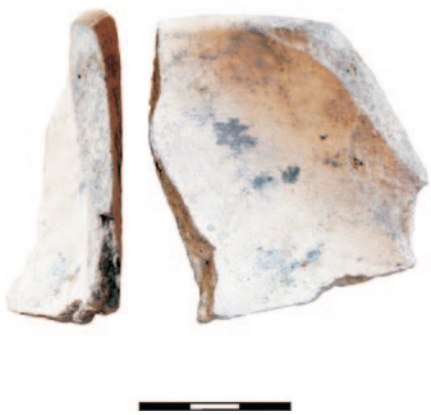


Fig. 6. Jug Tyre type 11.

The 8.009 fragments which were catalogued formed approximately 9% of the total excavated pottery fragments: 4.703 were of local handmade ware, 3.233 of Phoenician tradition, 33 Greek, 8 Cypriot, 30 Sardinian and 2 Villanovan. However, if one would start its calculation from only the rim and base fragments, one would arrive at 3.112 of the Phoenician tradition and 3.000 of the local handmade tradition, that is, they were similarly represented.

Phoenician pottery

The newly found Phoenician pottery of Huelva looks at first sight very similar to that of Tyre. This fact, in combination with the historical prominence of the Phoenician metropolis in the early expansion, justified the application of the typology of Tyre by Bikai,[2] complementing it in those cases where no good parallels could be found with the Sarepta typology.[3] Although we did not intend *a priori* to make new classifications on the basis of the present material, which would only lead to confusion and obscure the affiliation with the eastern centres, we had to make few exceptions: the Fine Ware vessels (491 rims) for which we adopted a classification based on the morphology; a heterogeneous group that corresponds to the category of 'bowl' (143 rims), of which the typological situation in the Levant is rather disparate; and the category of 'lid' (28 rims), in which some very particular types have been united.

In general, the pottery of the Phoenician tradition shows clay colours and slips, which seem to differ from those published from the East. Without excluding local productions in Huelva, these differences may also be caused by a process of heavy environmental reduction,[4] which results in a change of the possible original reddish or orange colours to white-greyish, as especially seems clear in the Fine Ware plates. Reduction conditions that seem capable of bringing about such changes occur when sufficient organic material accumulates in a sediment deposit under waterlogged conditions. Such were the conditions of the layer in which the pottery was found: an ancient wetland or saltwater swamp on top of which dense vegetation developed that, later, remained below the water table. Several analyses showed pH levels of the sediment ranging between 8 and 9 and an Eh (redox potential) that stayed below -60 mV. One could therefore conclude that, until reliable mineralogical and chemical analyses of the clays have been undertaken, the production places of a large number of vessels will remain difficult to ascertain.

The majority of the Phoenician pottery may correspond to the so-called Salamis horizon of Cyprus, which is equivalent to Rachidieh Tomb IV, Tell Abu Hawan III, Sarepta D1-C2, Tyre Strata X through part of IV, Qasmieh and Knossos. This horizon can neither be recognized at Tell Keisan (except perhaps in Level 6) nor at Sarepta in Sounding X. Khaldeh Tomb 121 and Tambourit probably belong to the last part of this period and continue into the next.[5] If one considers that the most recent (pottery) horizon of Kition is represented at Tyre in part of Stratum IV, the end of the Salamis horizon should not be later than 760 BC, when that Stratum ended.[6]

The jug with ridged-neck and squared rim of type 8 in Bikai's Tyre classification (*fig. 1*) and its near variants (with rounded, triangular and candle holder form rims: DJ-4 until DJ-10 of Sarepta) constitute the most important jugs in the Salamis horizon and we found 32 examples in Huelva. Also recorded are 7 jugs of Sarepta type DJ-11 (*fig. 2*) and three body fragments with vertical concentric circles of Tyre jug type 10 (*fig. 3*).[7] Thirty four fragments of jugs with trefoil rims type 7 of Tyre (*fig. 4*) correspond mainly to those with inverted conical neck and globular body; the more recent biconical[8] ones are notably absent, as are types 3, 4, 5 and 6 that in Tyre are not recorded before Stratum IV.[9] Older jugs are represented with a rim fragment with part of the neck attributed to Tyre type 9 (*fig. 5*) and three fragments shaped as Arabic roof-tiles (*fig. 6*), as if they would correspond to 'spouts' of jugs Tyre type 11. In conclusion, the jugs show a lower chronological limit within the Stratum IV of Tyre.

In contrast to the jugs, the plate types that could be distinguished possess in general only limited chronological value, since they occur in several strata of Tyre. Still, being the largest category found within the Phoenician pottery, they offer important information on Phoenician activity in Huelva. Table 1 presents the different plate types found and also the estimates in Strata IV and V of Tyre based on the percentages of the diagnostic fragments.[10] The equivalents of types 8 and 9 of Tyre (*fig. 7.2*) have been taken together, because of the colour changes discussed above. Strata I-III of Tyre have not been taken into account, because their equivalents have not been represented in Huelva, as may be clear from the absence of plates 1-6 of Tyre and other vessels typical of these strata.

There are several factors suggesting that the vast majority of the plates in Huelva have been produced in the period corresponding with Tyre Stratum IV and that they did not continue into the phases of Stratum III: the high number of plates type 7 of Tyre (*fig. 7.1*) present in the sample, which seems to conform better to Tyre Stratum IV than to Stratum V; the minor presence of plate type 10, which dominates Stratum V of Tyre, which may even be over-represented in the table, since we may have listed some rims of Huelva bowls type 2, similar to type 6 of Tyre, under plate type 10; the rarity of plate type 11, which is numerous in Tyre till Stratum V; and the absence of plate types 1 to 6 that are typical of Tyre Strata I-III and are rare in Stratum IV.[11] No less significant for the definition of a *terminus ante quem* is the absence of locally produced plates with narrow rims and Red Slip that characterize the first colonial occupation in several Andalusian sites and that, in Huelva, are found in a later period

Table 1. Plates in Huelva and strata IV-V of Tyre

Plates	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**8+9**	**10**	**11**	**12**	**13**	**14**	**Total**
Huelva							39.21			47.99	9.60	1.86		1.13	0.21	100
Tyre IV	2.60	1.11	1.25	2.22	0.14	1.98	24.34	48.33	9.33	57.66	5.72	2.36		0.62		100
Tyre V							4.36	25.76	21.82	47.58	33.63	12.24	0.88	1.31		100

Fig. 7. Plates: 1. Tyre type 7; 2. Tyre type 8-9.

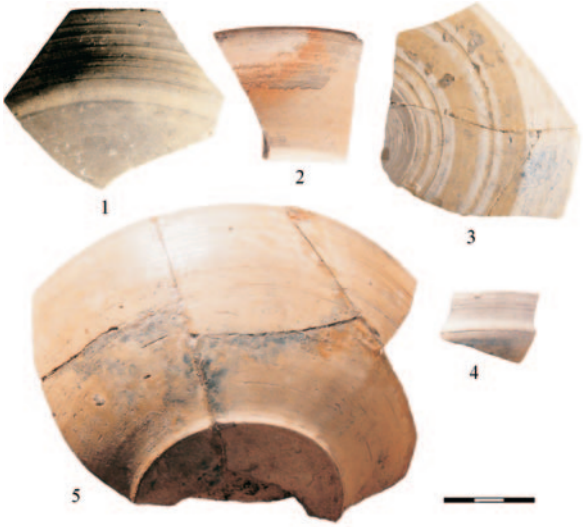


Fig. 8. Fine Ware:
1. Huelva type 1; 2. Huelva type 2; 3. Fine Ware base type 1 of Huelva; 4. Huelva type 4; 5. Huelva type 3 with Fine Ware base type 2 of Huelva.

Fig. 9. Amphora Tyre type 12.

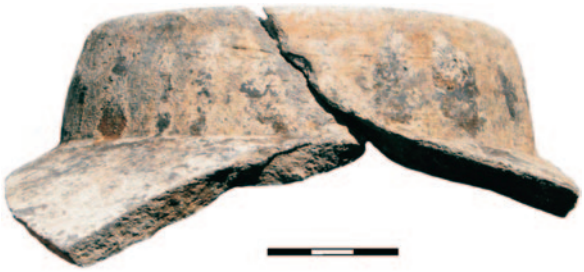


Fig. 10. Amphora Tyre type 9.

than the one under discussion. The prototype of those later plates, which mark a western evolution of the Phoenician pottery repertoire, are perhaps to be sought in plate type 2 of Tyre or from its probable predecessor, type 7.

The analysis of the Fine Ware plates/bowls (491 rims) leads to similar conclusions. As in the Strata V-IV of Tyre, they are of a high quality (*fig. 8*) without the already degenerating shapes that start to be found in Strata III-I.[12] The high percentage of rims of Huelva Fine Ware type 1 (55.91% of all Fine Ware rims excluding Huelva types 2 and 4 and exceptional shapes) shows a chronological concordance with Tyre Stratum IV, in which rims of Fine Ware type 6 that are generally equivalent to Huelva Fine Ware type 1 reach 7.75% of all diagnostic fragments[13] and up to 41.25% of all Fine Ware rims if one excludes the 'miscellaneous' shapes. However, the disparity of typological criteria suggests that these data should only be used in general terms. The apparent absence of the later types 1 to 3 of Tyre hints at a *terminus ante quem* as well. The absence of Tyre type 7, of which recently an example has been found on another site in Huelva,[14] is less significant in chronological terms, since it is already rare in Tyre.[15]

Next to be discussed are the amphorae of which 52 rims were found. There were 11 examples of Tyre type 12 (*fig. 9*) and 24 attributed to Tyre type 9 (*fig. 10*). These rims are in chronological accordance with four bulbous bases type 20 of Tyre (*fig. 11*). Although the large number of varieties of type 9 make identification only by rim shape a difficult task,[16] for most of the cases very close parallels could be found in the published material of Tyre. Four rims with thickened interior profile (*fig. 12*) and five shoulder fragments show the same ridges on the shoulder as some amphorae of Tyre type 9 with similar rims,[17] which are associated with the last use of Temple A and the first phase of Temple B in Kommos (circa 900-760 BC).[18] No rims of amphorae type 2 of Sagona were found, although a small number

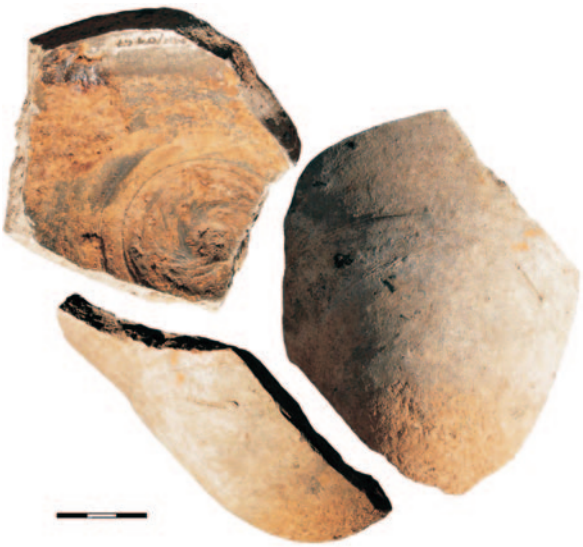


Fig. 11. Base type 20 of Tyre.

Fig. 12. Amphora Tyre type 9 ('Kommos variety').

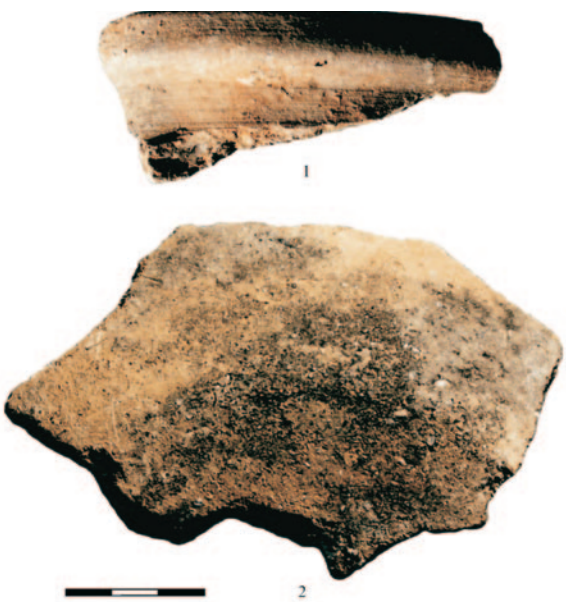


Fig. 13. Nuraghic amphorae: 1. Rim; 2. Base.

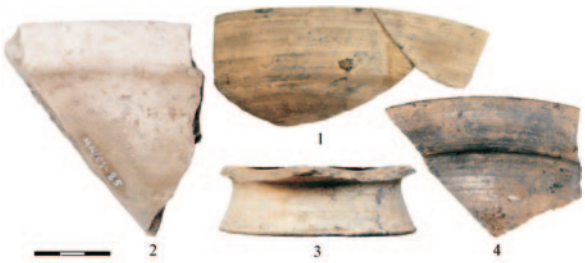


Fig. 14. Bowls:
1. Huelva type 5; 2. Huelva Type 1;
3. Base 11 of Tyre; 4. Huelva Type 8.

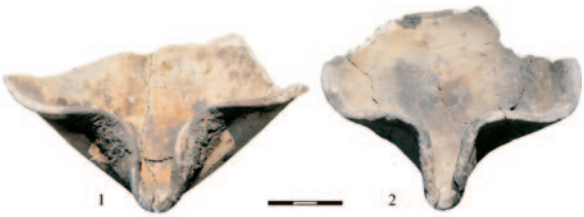


Fig. 15. Lamps: 1. Tyre type 1; 2. Hand-made lamp.

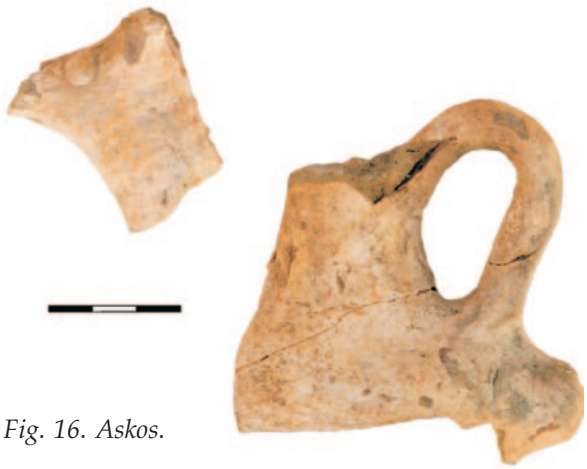


Fig. 16. Askos.

has been discovered in other settlements in the region, probably because their arrival in the West is later than the formation period of the present sample. Nor have pointed bases of Tyre types 18 and 19, which correspond to more recent amphorae, been found.[19] Among the amphorae that are considered to be of western Mediterranean productions, five could be attributed to types T-3.1.1.1/T-3.1.1.2 of Ramón[20] or to forms close to B1/B2 of Bartoloni.[21] There are also three bases of amphora B2 of Bartoloni.[22] Of great interest are nine rims, one base (*fig. 13*) and four handles of a class initially described by Docter as 'ZitA'. Finds

from Sant'Imbenia on Sardinia[23] lead to a redefinition of both its labels and provenances: the first of the five subclasses, ZitA 1 and ZitA 2,[24] have been renamed Nuraghic 1 and 2, placing their production in the Nuraghic sphere.[25]

Amongst the bowls (*fig. 14*), for which we propose a provisional classification in order to facilitate their presentation and discussion, the possible high chronology of a base type 10 of Tyre and 13 bases of Tyre type 11 are noteworthy, since in Tyre itself they have not been found later than in Strata X-2 and VIII, respectively.[26] On the other hand, among the ones with a more recent chronology are bowls of Huelva types 4 and 6 and some other exceptional ones, which may be compared to ones found in Kition-Kathari, attributed to the Kition horizon.[27] However, the limited number does not exclude the possibility that the production of these bowls would have started somewhat earlier, at the end of the Salamis horizon. Still, a dating at the beginning of the Kition horizon would not cause chronological problems for the Huelva stratum discussed here, since such bowls have been recognised also in Tyre stratum IV, that is to say, they may date somewhere prior to 760 BC.[28] In this case, they would be the oldest elements of the Kition horizon, but at the same time the most significant elements of that pottery horizon are missing: mushroom jugs types 3-5 of Tyre, neck-ridge jugs type 2 of Tyre, plates with rims that are concave to the interior of type 1 of Tyre and, perhaps, torpedo amphorae.[29] However, a body fragment with a very straight profile may have belonged to a torpedo amphora, perhaps dating to before 760 BC. No double-spouted lamps, the most recent ones, have been documented in the material finds of Huelva; only lamps with a single spout, which are practically limited to type 1 of Tyre, present in all strata of the Phoenician metropolis and the only one present prior to Stratum V. The handmade lamps found in Huelva exactly imitate this type (*fig. 15*). Neither has there been any trace in Huelva of juglets of Tyre type 1, which is commonly found in the more recent Strata of Tyre, nor of type 4 ones, so typical of the older strata,[30] nor of grey wheel-turned pottery of western origin that start appearing in the settlements of the Iberian Peninsula in relation with the Phoenicians from the middle of the 8th century BC onwards. On the basis of the present state of study, several categories of Phoenician pottery do not permit chronological precisions of the sort applied above: lids, supports, pedestal bases and some examples of kraters, terracottas, askoi (*fig. 16*), mortars, tripods and goblets. Some high quality lids appear to fit to bowls also of high quality which, in reality, should be considered as pyxides.

In conclusion, the Phoenician pottery of the Huelva context extends itself to stratum IV of Tyre although it comes to an end before ca 760 BC. A date of ca 770 BC or slightly earlier seems appropriate and accords well with the palaeographic dates provided by the nine Phoenician inscriptions on the pottery, one on bone and another one on a piece of ivory.[31] This date also conforms well to the information provided by the Greek, Cypriot, Sardinian and local pottery.

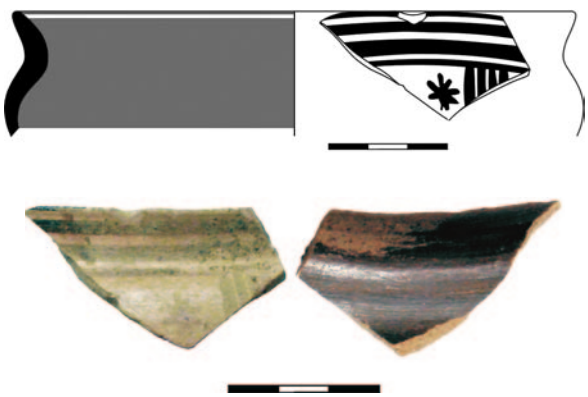
Greek pottery

The best chronological information is provided by 22 out of the 33 Greek vessels found in the context: two kantharoi (*figs. 17-18*), two skyphoi (*figs. 19-20*) and a trefoil mouth jug from Attica, and two skyphoi (*figs. 21-22*) and 15 SPG plates with pendent semicircles (*figs. 23-24*) from Euboea or the Cyclades. The chronological value of the other fragments is rather limited and sometimes even the attribution is uncertain. The Attic vases belong to the MG II period, so date to about 800-760 BC.[32] The two Euboeo-Cycladic skyphoi may be attributed to Kearsley's type 6[33] and to the SPG III period. Less precise dates can be obtained for the 15 Euboeo-Cycladic plates, which were perhaps made by the Greeks for a Phoenician clientele.[34] If we follow the typology and chronology proposed by Nitsche,[35] among the eight cases in Huelva in which the rims have been preserved, there would be one example of type B1 (*figs. 23.3, 24.3*) and two of type C1 (*figs. 23.4-5, 24.4-5*), which one would have to assign to the SPG I-II period (ca 900-850 BC). The absence in the sample of Attic LG pottery and of Euboeo-Cycladic skyphoi with chevrons that chronologically follow the skyphoi with pendent semicircles as well as the still more recent Proto-Corinthian vessels and the Euboean bird skyphoi attested in other excavations in Huelva,[36] confirms the lower chronological limit already established on the basis of the Phoenician pottery.

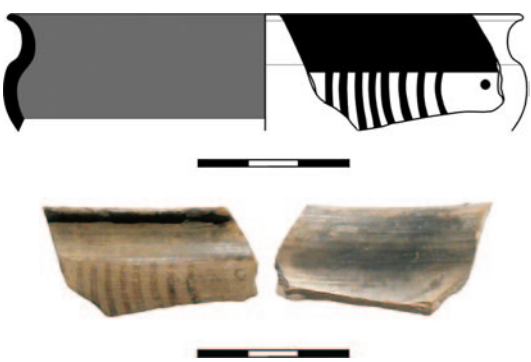
Cypriot pottery

There were five vessels that we consider to be of Cypriot origin (in one case with some reservations). Of particular interest were three Black on Red juglets decorated with concentric circles (*fig. 25*) that may be attributed to types I (III) or II (IV) in Gjerstad's *Swedish Cyprus Expedition* classification.[37] The general type III starts at the end of the Cypro-Geometric II B period and disappears in

Figs. 17 and 18. Attic MG II kantharos.



Figs. 19 and 20. Attic MG II skyphos.



Figs. 21 and 22. Subprotogeometric Euboean pendent-semicircle skyphos.

the Cypro-Archaic II A period, whereas type IV is mainly found in the Cypro-Archaic period with only a limited presence in Cypro-Geometric III B.[38] Although Gjerstad originally dated Cypro-Geometric III to ca 850-700 BC, he later redated its ending to about 725 BC.[39] This chronology has been dated even higher by other authors as Birmingham[40] or Yon.[41] In Crete, where the first Phoenician imports date already to the end of the 9th century BC, the Cypriot Black on Red jugs started arriving from about 800 BC.[42] The find of Black on Red II (IV) juglets in a Cretan pithos of the MG period in a tomb from the North Cemetery in Knossos supports the higher dating of the transition of the Cypro-Geometric to the Cypro-Archaic period.[43] With this, the attribution of some of the Black on Red pottery from Huelva to type II should not imply a lower date for them than the rest of the context in which they were found would suggest.

Sardinian pottery

The Sardinian vessels, which have been documented in the Huelva sample, do not allow for such precise dating as the Greek vessels. Besides the Nuraghic (ZitA) amphorae discussed above, there are 13 askoi, one bowl, and 15 'vasi a collo' (*fig. 26*). The overview by Køllund of the Sardinian askoi found in contexts outside Sardinia[44] suggests that the Sardinian pottery reached Huelva in about the same period as the Greek and Cypriot ceramics.

Villanovan pottery

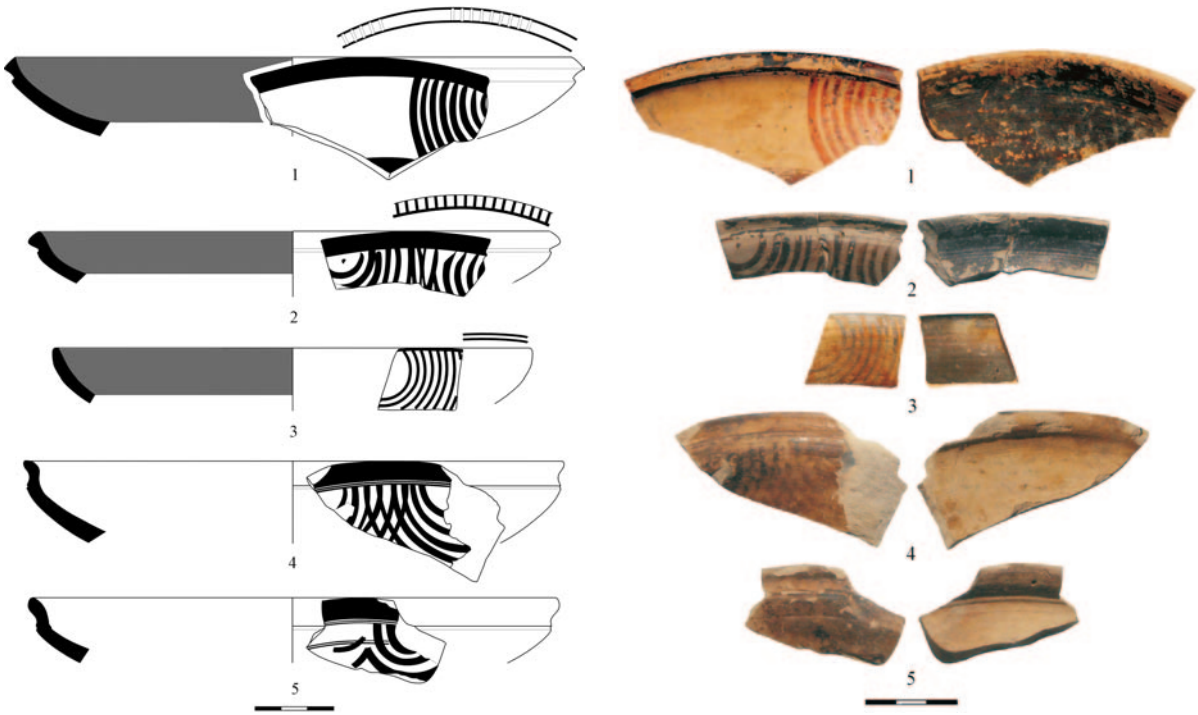
Two vessels, a kantharos (*fig. 27*) and a cup were considered to be of Villanovan origin.

Local

The pottery of the local tradition is characteristic for the so-called 'Bronce Final del Suroeste' period (San Pedro phase I). In the light of the new finds, this 'Late Bronze Age period of the Southwest' may perhaps better be called as Iron Age I or Early Iron Age. Not attested in the sample are the developed shapes of San Pedro Phase II or its equivalents in other settlements.

THE START OF HUELVA LAYER

The Huelva context shows a rather clear *terminus ante quem*, which corresponds to the first half of Stratum IV of Tyre. Establishing its beginning (*terminus post quem*), however, is much more com-



Figs. 23 and 24. Subprotogeometric pendent-semicircle plates.
Euboean: 1-2. Near to D2 of Nitsche; 3. B1 of Nitsche. Cycladic: 4-5. C1 of Nitsche.

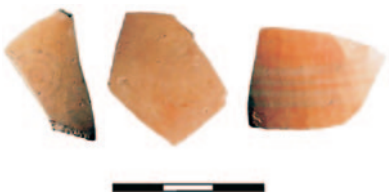


Fig. 25. Cypriote Black on Red jugs.

Fig. 26. Sardinian pottery:
1-6. Askoi; 7. bowl; 8. 'vaso a collo'.

Fig. 27. Villanovan kantharos.

plex, because the materials that may yield such a chronology are, not surprisingly, scarce. From the Phoenician pottery side, it may be established by few elements of the so-called Kouklia horizon, which is equivalent to Tell Abu Hawan IV, Khaldeh Tombs 4, 166 and 167, Tell Keisan 9a-8 and 7, Sarepta D and VII, and Tyre XIII-X.[45] They consist of the jug rim fragment with part of the neck attributed to a jug of Tyre type 9; the three fragments that may have belonged to 'spouts' of jugs of Tyre type 11, and, especially, the 11 high rim fragments attributed to amphorae of Tyre type 12, which virtually disappear in Tyre after Stratum

IX.[46] Bikai[47] refers to parallels of such amphorae in Hazor XII and Meggido VIII-VIIB and V, also mentioned by Anderson[48] for his types SJ-7 and SJ-8 of Sarepta, which are equivalent to type 12 of Tyre, together with some examples of SJ-6. Anderson[49] also mentions in this connection Level 9 of Tell Keisan and Stratum IVb of Tell Abu Hawan and extends on the Strata XII-IXB of Hazor. The base of Tyre type 10 and the 13 bases of Tyre type 11 point at a similar early date. In Huelva no 'pilgrim flasks' have been found, nor pottery of the so-called Red Ware, which characterizes the oldest phase of the Kouklia horizon. This predominance of amphorae within the oldest pottery of Huelva, is not surprising in a phase of commercial exchanges in which, perhaps, still no stable Phoenician settlement of importance yet existed in the West. We will not use two examples of plates, which are similar to plate type 14 of Tyre as an argument in favour of a high chronology, since similar rims occur with lamps as well. In any case, the fault of precisions of the chronological framework in the East during the 11th till 9th century BC obliges us to build in wide chronological margins when trying to establish datings solely based on the Phoenician pottery repertoire. A date at the end of the 10th century BC till the first half of the 9th century seems reasonable and is in accordance with datings in the beginning of the 9th century BC assigned to the bronze deposit of the estuary of Huelva by various radiocarbon analyses.[50] This early date is also compatible with the typology of the bronzes,[51] among which are fibulae of Oriental inspiration. As has been stated above, among the Euboeo-Cycladic plates with pendent semicircles exists one example of type B1 and two of type C1 that Nitsche,[52] attributed to the SPG I-II period (ca 900-850 BC).

Fig. 28. Basalt vase.

Fig. 29. Agate cores.

OTHER FINDS

Together with the pottery, some lithic vessels and utensils have been found: a fragment of an anchor (or a weight?) of bioclastic limestone, a fragment of an alabaster vase, a basalt vase (*fig. 28*), two cores (*fig. 29*) and five stones of agate (raw material of a stone cutter?), three beads (one of amber, one of a cryptocrystalline quartz variety and the third of glass paste; *fig. 30*), and four baetyls cut from a bioclastic limestone (*fig. 31*) and a fifth one of lava stone.

Metallurgical activities have left us with a variety of waste material: bricks of furnace walls (*fig. 32*); tuyères of rectangular and round section (*fig. 33*) and crucibles for copper founding with slag

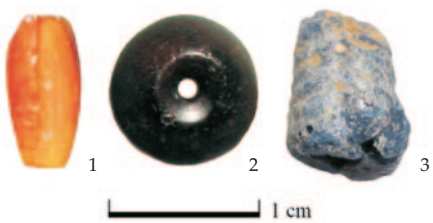


Fig. 30. Beads: 1. Amber; 2. Cryptocristalline quartz; 3. Glass paste.

Fig. 31. Bioclastic limestone baetyl.

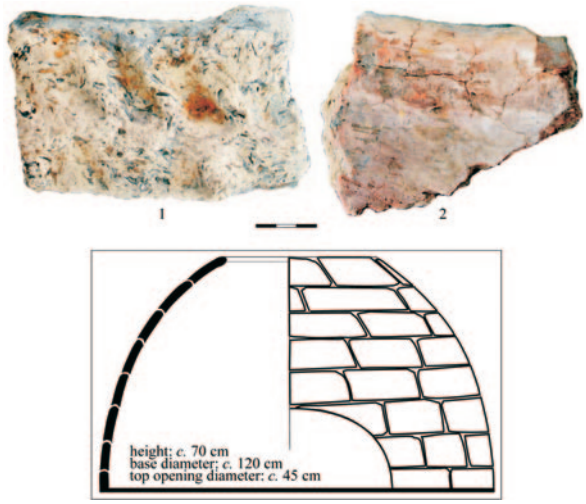


Fig. 32. Furnace wall brick and kiln reconstruction: 1. Brick with finger prints; 2. Brick-edge.

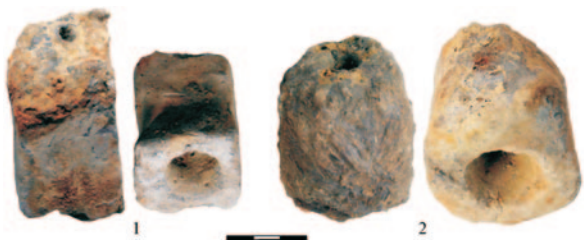


Fig. 33. Tuyères: 1. Square section; 2. Round section.

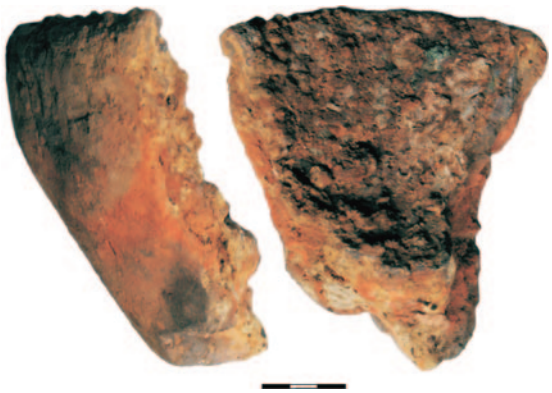


Fig. 34. Crucible for copper.

Fig. 35. Tin sheet with perforations.

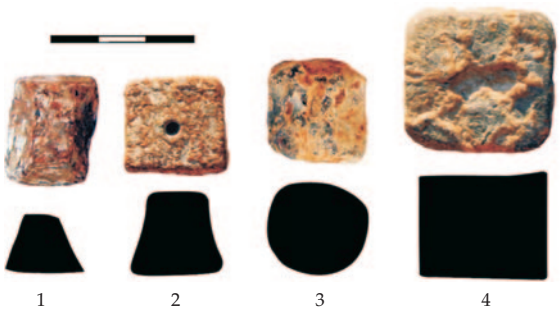


Fig. 36. Lead weights. 1. 4.49 g (1/2 shekel); 2. 9.54 g (1 shekel); 3. 9.59 g (1 shekel); 4. 26.62 g (3 shekels).

material still sticking to the interior surface (*fig. 34*). The crucibles are practically identical with those excavated on some oriental sites like Tell Dan.[53] The Huelva context also contained some clay moulds and one sandstone mould for casting; slag material of copper, silver and flat-curved of iron; small lead sheets and drips, which may perhaps be associated with the process of silver cupellation, and a very intriguing sheet of tin with perforations (*fig. 35*), which are interpreted to have been made with a punch in order to obtain always equal quantities of tin for the copper alloy process. In addition, finished objects of copper/bronze and lead have been found, which may be associated

Fig. 37. Golden earring.

Fig. 38. 1. Wooden objects; 2. Ship remains: a. Iron plaques and nails; b. Joints; c. Esparto grass.

Fig. 39. 1-2. Ivories; 3. Elephant tusk.

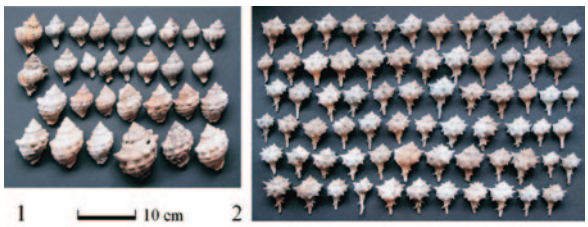


Fig. 40. Murex trunculus; 2. Murex brandaris.

with metal working activities. Especially worth mentioning are four weights (*fig. 36*): one topped off pyramidal of 4.49 g (half a shekel), one similar shape of 9.54 g (one shekel) with a hole pressed in its base, a cylindrical of 9.59 g (one shekel) and a cubical of 26.62 g (three shekels) with a straight impression. A golden earring (*fig. 37*) and iron sheets, fixed to the planking of a boat with iron nails have also been found (*fig. 38.2a*).

A large amount of woodworking waste gives evidence of the existence of carpenters' workshops. The worked wood in question is almost exclusively pine (*Pinus pinea*). Among the worked wood several functional categories could be distinguished. These included tools for carving, weaving, ships construction, cosmetic and writing utensils (pinax/writing tablet?), polishers for pottery and a fragment of a ritual spoon in the shape of a deer leg (*fig. 38.1*). Another artisan activity that could clearly be documented in the finds is the working of ivory: 816 fragments of ivory cutting as well as some finished products (about 20% of the total) with a total weight of 2.23 kg, and a large part of an elephant tusk of 3.265 kg. Among the finished ivory pieces several categories could be distinguished: carving, cosmetic utensils, writing utensils (?) (*fig. 39*). Bone objects were also present. These consisted of piercers, a button, worked astragals for play or ritual, and a bull or cow's rib fragment with rounded edges and numerous traces of wear on its ends, which may have been used as a tool in for example modelling of pottery. There were also fragments of horns and antlers, which had been neatly cut (including an antler pendant), a pendant possibly of a bear's tooth and ostrich egg fragments. These show that a variety of animal remains were worked in the settlement.

The agricultural activities in and around Huelva may also be grasped from the finds. From the palaeobotanical side one has evidence for wine grapes (*Vitis vinifera*), figs (*Ficus carica*) and grain (*Hordeum*). Cattle-breeding is attested with cows (*Bos taurus*), goats and sheep (*Ovis aries* and *Capra hircus*), pigs, horses, dogs, birds and others that still await a specialized analysis. Hunting is attested with remarkably few specimens. The remains

of deer (*Cervus elaphus*), wild boar (*Sus scrofa*) and rabbit (*Oryctolagus cuniculus*) occur only sporadically in the sample. Fishing has been attested with quite a variety of species: meagre (*Argyrosomus regius*), braize (*Pagrus pagrus*), gilthead seas bream (*Sparus aurata*), ray (*Raja sp.*), sardine (*sardina pilchardus*) and cuttle-fish (*Sepia officinalis*). Crustacean and remains of chelonian shells, numerous murex shells (*Murex trunculus* and *Murex brandaris*) (*fig. 40*) and of gasteropod (*Littorina littorea*) and bivalve molluscs (*Ostrea edulis lamellosa*, *Mytilus scaphoides*, *Venerupis decussata*, *Solem marginatus*) were also discovered. A fragment of an amphora with fish scales sticking to the interior surface may suggest that conserved fish had been imported or prepared in Huelva too.

WHO TRANSPORTED THE GREEK POTTERY FOUND IN HUELVA?

Both in the east and the west of the Mediterranean, several classes of Greek pottery have been found which according to the conventional typochronology date before ca 760 BC and thus antedate the founding of Phoenician and Greek colonies (leaving aside the Phoenician colony of Kition at the end of the 9th century BC). These materials are considered to represent a pre-colonial period and their distribution has been mainly attributed to Euboean enterprise, less commonly to Phoenician initiative.

In Pithekoussai, a Euboeo-Cycladic chevron skyphos from the Valle di San Montano necropolis and several fragments from the Gosetti dump of the acropolis belong to the oldest Greek finds from the island; they may even date to a period prior to the establishment of a fixed base.[54] It seems, therefore, that in the period of the Euboeo-Cycladic chevron skyphoi, at the end of the MG II period and not much later than 750 BC,[55] the Euboeans were already moving around in Western waters. The chevron skyphoi are preceded by the Euboeo-Cycladic skyphoi with pendent semi-circles, the production and distribution of which antedates the Greek settlement on Pithekoussai. This class of vessels certainly belongs to the pre-colonial period.

In the East, the Greek pottery repertoire starts with some Eubeoan PG vessels, which are followed by few plates with pendent semi-circles attributed to the SPG I-II period,[56] a significant number of skyphoi and Euboeo-Cycladic plates with pendent semi-circles of the SPG III period and skyphoi, pyxides and various Attic kraters of the MG I-II period.

In the West, a few Euboeo-Cycladic skyphoi with pendent semi-circles have been found, in Italy and its islands. Remarkable for its antiquity is the skyphos with pendent semi-circles of Kearsley's type 5 found in the Nuraghic complex at Sant'Imbenia (Alghero, in the northwest of Sardinia), which is attributed to Phoenician commercial activities.[57] A Cycladic MG I amphora appeared in a tomb in the Fusco cemetery of Syracuse, but in a context of LG.[58] Corinthian MG I and MG II, collected by I. Malkin,[59] were found at Otranto, Vaste, and Porto Cesareo (all in Puglia), and a Corinthian 'protokotyle' with chevrons of the end of the MG in Incoronata, Metaponto.[60] As for Attic MG II, only a krater[61] fragment had been discovered at Huelva. To this repertoire we may now add the new Attic and Euboeo-Cycladic finds from Huelva, which include Euboeo-Cycladic pendent semi-circle type 6 skyphoi. The contextual chronology of the Huelva finds favours the critics of a late attribution of pendent semi-circle skyphos type 6 to the second half of the 8th century BC.[62] What also argues against a late distribution is its absence in Pithekoussai.[63]

Let us return to the thorny question of who transported these Greek vases. Its attribution to Euboean enterprise and navigation contrasts with the attribution to the Phoenicians of the distribution of the Attic MG II kraters in Amathus, Hama, Tyre and Samaria and the Attic krater of Huelva.[64] Of course, in the case of Huelva, it seemed unthinkable to allow for a Greek presence at the beginning of the 8th century BC, since neither the literary sources nor the archaeological record gives any clue. This throws more doubt onto the attribution of Euboeo-Cycladic material in the East to Euboean navigators. It certainly does not explain why, during the century between the first Euboean PG vases of Tyre, Amathus and Tell Hadar and the supposed foundation of Al Mina by the Euboeans, the latter would have kept visiting the Cypriot and Levantine coasts without securing any kind of territorial base. This proposition is made even weaker by the fact that Al Mina at that moment was not an Euboean colony as had initially been proposed. Some 15 years ago, after having considered the Greek finds in the Mediterranean, Boardman concluded: 'The Euboeans' later well-attested exploration of western shores should not leave us surprised at the possibility of earlier voyages... It can seriously be doubted only when finds of orientalia comparable in date, quality and quantity to those of Euboea are forthcoming from other Greek sites, or indeed other parts of the Mediterranean.'[65] In Huelva,

not only have these Eastern finds now appeared, but also they have been encountered in an archaeologically rich Phoenician-indigenous context.

THE SARDINIAN CONNECTION

There are several archaeological classes that seem to confirm the relations between Sardinia and Andalusia. To these remains, one now has to add the Nuraghic (ZitA) amphorae discussed above, 13 askoi, a bowl and 15 necks of 'vasi a collo'. But, who transported these vessels? Certainly, the prescence of Nuraghic amphorae and 'vasi a collo' make a stronger case for Sardinian navigations to the Iberian Peninsula than the Euboeo-Cycladic skyphoi and plates with pendent semi-circles support Euboean operations in the western Mediterranean during the pre-colonial period. However, the Sardinian vessels of Huelva are embedded in a Phoenician context. In fact, all types and associations that could also be documented in Crete are present in Huelva: amphorae with bulbous base, jugs with squared rim, Bichrome jugs decorated with vertical concentric circles on the body, Cypriot Black on Red jugs and Sardinian askoi; of these, one handle is remarkably identical with that of the askos in the so-called goldsmith's tomb of Tekke (*fig. 26.4*).[66] Therefore, it is very likely that at the same time, the Phoenicians could have transported Sardinian pottery to Crete and Huelva.

Lastly, we have the Phoenician inscription on the Nora stele in Sardinia with its toponym Tarsis (tršš) and some of the ancient sources (Paus. 10.17.5; Sol. 4.1) suggesting that Norax, the mythical founder of Nora, although he had arrived from Tartessos (Huelva), may well have been a Phoenician.[67] Perhaps, the original version of this legend mentioned Tarsis and not Tartessos.

HISTORICAL SIGNIFICANCE OF THE EARLIEST SETTLEMENT OF HUELVA. TEXTS AND ARCHAEOLOGY

Few years ago, Bikai concluded after having studied the Phoenician pottery from Kommos: 'It is now undoubtedly only a matter of time before much earlier materials are identified in the far west.'[68]

Huelva represents the birth and the consolidation of an emporium that was dependent on some foreign agents, whose interests lie far from the wandering adventures of fortune seekers. During a long period of slow evolution, in which the archaeological repertoire has mainly been represented by amphorae, follows a sudden development from the beginning of the 8th century BC. The reasons that motivated the Phoenicians to settle themselves permanently in Huelva are reflected in the finds: specialists of all kind settled themselves, including metallurgical specialists, potters, carpenters, ivory workers, stoneworkers and masons (wall of San Pedro[69]), etc. These settlers interacted strongly with the indigenous world and introduced changes in the exploitation of the territory, making use on a large scale of the existing resources in the area (mines used for the extraction of different metals) and importing from other regions overseas (ivory). The existence of copper, silver and iron secured its principal interest: the provision of silver that developed in the years thereafter to a gigantic scale to the benefit of Tyre, not only on the basis of its intrinsic value but also on account of its function as a sort of pre-monetary currency.

Significant in respect to the scale of these extractions is a simple comparison between the somewhat more than 4.000.000 tons of copper slag on Cyprus dating to the pre-Roman and Roman activities and the 6.600.000 tons of (mainly silver) slag in the Riotinto area over the same period.[70] Also, with respect to the ivory, the new data from Huelva give us information on the role of the site and, moreover, expand on the notion of a 'secondary centre' labelled by Barnett,[71] which is a place where no elephants exist, but where an easy provision of ivory tusks transported overseas is possible, for further export. The waste material shows with certainty that Huelva was not only a place for the transshipment of the highly estimated raw material, but also the base of specialized ivory workers, a fact which on a general level brings about significant difficulties regarding the stylistic location of these workshops. Within the 'Syrian school', the one from Hama has been characterized by waste (off-cuts and unfinished products), as in the case of Huelva.

Later, at the end of the 7th, the same settlement, inhabited by people of indigenous and Phoenician origin, became heavily industrialized and reached a densely urbanised extension of some 20 hectares, being known to the Greeks as Tartessos and called a commercial-emporium (Hdt. 4.152), city (Avien. *Or. Mar*. 290) and city-emporium (Scymn. 160). It may be clear that this 'emporium' refers to a date much later than the finds we have presented here archaeologically. Closer to the beginning of these finds, ca 900 BC, is the information provided by the hitherto rather polemically interpreted verse in the *Old Testament*:

> 'For the king (Solomon) had at sea the ships (fleet) of Tarsis with the ships (fleet) of Hiram; once every three years the ships (fleet) of Tarsis came bringing gold and silver, ivory and apes and peacocks' (I *Kings* 10.22).

This line implies, according to some interpretations, a Tarsis/Tarshish in the Far West dating to the period of King Hiram of Tyre and King Solomon of Israel, and more plausibly in the first decades of the second half of the 10th century BC (no mention to Tarsis ships in relation with the voyage to Ophir in I *Kings* 9.26-28; 10.11-12). However, the text poses some difficulties, as for example with the indecipherable Hebrew *hapax* interpreted as 'peacocks', although it does not appear as such in the Septuagint and for which there exist other possibilities,[72] or the polemical figure of Solomon, who is probably overvalued by the deuteronomist authors. As in the case with other biblical passages, it has been suggested that two traditions have existed that in this case have merged into one. One of these traditions erroneously attributed to Solomon, whose figure should stand out favourably, the ownership of a fleet. On the other hand, Bunnens[73] could also be correct, when he suggested the interpretation, in accordance with some readings, that we should not imagine a collection of ships (fleet), but only one vessel. In any case, for different reasons it seems very unlikely to identify these ships (or ship) with those that travelled to Ophir.[74]

The new Phoenician finds from Huelva, which are the oldest ones found in the West to date, are remarkably close in date to Hiram and Solomon, in fact, only a difference of a few decades, if any. It is therefore not impossible that already in the period of Hiram a fleet (or even only a single ship) had arrived on an occasional or on a regular voyage ('once every three years') in Huelva.

NOTES

* We like to thank Roald Docter (Ghent) for his support and for preparing a first English version of our Spanish text, R.T. Miles (Cambridge) for correcting the English version and Albert Nijboer and J. van der Plicht (Groningen) for radiocarbon analyses, the results of which are presented in this volume pp. 31-36. In any case, errors are of our own responsibility.

1 This contribution resumes for an English readership the most important aspects of the excavation publication *El emporio fenicio precolonial de Huelva: ca 900-770 a.C.*, by F. González de Canales, L. Serrano and J. Llompart, with some references to *Del Occidente mítico griego a Tarsis-Tarteso: Fuentes escritas y documentación arqueológica*, by F. González de Canales. Both studies were published in December 2004 by Editorial Biblioteca Nueva of Madrid.
2 Bikai 1978.
3 Anderson 1988.
4 Dunbar/Rodgers 1957, 212; see also Mason 1966, 170-171.
5 Bikai 1987, 67, table 2.
6 Bikai 1981, 33.
7 Bikai 1978, 40.
8 Bikai 1987, 49-50.
9 Bikai 1978, 35, table 6A.
10 Bikai 1978, table 3A.
11 Bikai 1978, table 3A.
12 Bikai 1978, 26.
13 Bikai 1978, table 4A.
14 Gómez Toscano *et al*. 2002, 317, fig. 3.1.
15 Bikai 1978, table 4A.
16 Bikai 1978, 46.
17 Bikai 2000, 309-10.
18 Shaw 2000, 1100, fig. 8.2, 6, 8.
19 Bikai 1978, pl. XCV.18-19.
20 Ramón 1995, 180-2, figs 30-31, 155-156.
21 Bartoloni 1988, 32-3, fig. 4.
22 Bartoloni 1988, 32-3, fig. 4.
23 Oggiano 2000, 241-2.
24 Docter *et al*. 1997, 18-22.
25 Docter 1998; 1999, 93, table 4.
26 Bikai 1978, table 11A.
27 Bikai 1987, 55, 62.
28 Bikai 1981, 33.
29 Bikai 1987, 56.
30 Bikai 1978, table 9.
31 For their reading and palaeographical dating we thank M. Heltzer of Haifa University.
32 Coldstream 1968, 330.
33 Kearsley 1989, 101-2.
34 Coldstream/Bikai 1988, 39.
35 Nitsche 1986-1987, 32.
36 Cabrera/Olmos 1985.
37 Gjerstad 1948.
38 Gjerstad 1960, 107-108.
39 Gjerstad 1974, 118.
40 Birmingham 1963, 40.
41 Yon 1976, 14 no. 2.
42 Coldstream 1986, 324.
43 Coldstream 1984, 131, 136.
44 Køllund 1992-1993, 202.
45 Bikai 1987, 67.
46 Bikai 1978, 45, table 10A.
47 Bikai 1978, 45.
48 Anderson 1988, 192-194.
49 Anderson 1988, 290 nos 281-282, 284, 289.
50 Almagro Gorbea 1977, 524-525.
51 Ruiz-Gálvez 1995a, 79; 1995b, 510.
52 Nitsche 1986-1987, 32.
53 Biran 1994, figs 105-106, pls 21, 23.
54 Ridgway 1981, 51-56, nos 2-9; 1997, 108; see also Coldstream 1995, 257-258, 260-261, 266.
55 Coldstream 1995, 261; see also Ridgway 1997, 108.
56 Nitsche 1986-1987, 31-44.
57 Ridgway 1995, 77, 80-81.
58 Kourou/Stampolidis 1996, 715-716.
59 Malkin 1998, 85.
60 Orlandini 1982; see also Coldstream 1982, 216-217.
61 Shefton 1982, 342-343, pl. 30a.
62 Descoeudres/Kearsley 1983, 52; Kearsley 1989, 128.
63 Popham 1994, 26.

[64] Coldstream 1983, 203.
[65] Boardman 1990, 178.
[66] Vagnetti 1989.
[67] Guido 1963, 194.
[68] Bikai 2000, 311.
[69] Ruiz Mata *et al*. 1981, 178-194, 259, pls III-XII.
[70] González de Canales 2004, 238-239.
[71] Barnett 1982, 15.
[72] González de Canales 2004, 215.
[73] Bunnens 1979, 63-64.
[74] González de Canales 2004, 196-206.

BIBLIOGRAPHY

Almagro-Gorbea, M. 1977, *El Bronce Final y el Período Orientalizante en Extremadura* (Biblioteca Praehistorica 14), Madrid.

Anderson, W.P. 1988, *Sarepta* I. *The Late Bronze and Iron Age Strata of Area II,Y*, Beyrouth.

Barnett, R.D. 1982, *Ancient Ivories in the Middle East and Adjacent Countries*, Jerusalem.

Bartoloni, P. 1988, *Le anfore fenicie e puniche di Sardegna* (Studia Punica 4), Rome.

Bikai, P.M. 1978, *The Pottery of Tyre*, Warminster.

Bikai, P.M. 1981, The phoenician imports, in V. Karageorghis (ed.), *Excavations at Kition* IV. *The non-Cypriote Pottery*, Nicosia, 23-35.

Bikai, P.M. 1987, *The Phoenician Pottery of Cyprus*, Nicosia.

Bikai, P.M. 2000, Phoenician Ceramics from the Greek Santuary, in J.W. Shaw/M.C. Shaw, *Kommos* IV, Princeton, 302-312.

Biran, A. 1994, *Biblical Dan*, Jerusalem (edited, revised and augmented translation from the Hebrew, Tel-Aviv, 1992).

Birmingham, J. 1963, The chronology of some Early and Middle Iron Age Cypriot sites, *AJA* 67, 15-42.

Boardman, J. 1990, Al Mina and History, *OxfJA* 9, 169-190.

Bunnens, G. 1979, *L'expansion phénicienne en Méditerranée. Essai d'interpretation fondé sur une analyse des traditions littéraires*, Brussels/Rome.

Cabrera, P./R. Olmos 1985, Die Griechen in Huelva. Zur Stand der Diskussion, *MM* 26, 61-74.

Carriazo, J. de Mata 1973, *Tartesos y el Carambolo*, Madrid.

Coldstream, J.N. 1968, *Greek Geometric Pottery*, London.

Coldstream, J.N. 1983, Gift Exchange in the Eighth Century B.C., in R. Hägg (ed.), *The Greek Renaissance of the Eighth Century B.C.*, Stockholm, 201-206.

Coldstream, J.N. 1984, Cypriaca and Cretocypriaca from the North Cemetery of Knossos, *RDAC*, 122-137.

Coldstream, J.N. 1986, Kition and Amathus: Some Reflections on their Westward Links during the Early Iron Age, in V. Karageorghis (ed.), *Acts of the International Archaeological Symposium, Cyprus between the Orient and the Occident (Nicosia, 8-14 September 1985)*, Nicosia, 321-329.

Coldstream, J.N. 1995, Euboean Geometric Imports from the Acropolis of Pithekoussai, *BSA* 90, 251-267.

Coldstream, J.N./P.M. Bikai 1988, Early Greek Pottery in Tyre and Cyprus: Some Preliminary Comparisons, *RDAC*, 35-44.

Descoeudres, J-P./R.A. Kearsley 1983, Greek Pottery at Veii: Another Look, *BSA* 78, 9-53.

Docter R.F., 1998, Die sogenannten ZitA-Amphoren: nuraghisch und zentralitalisch (19.09.1997), in R. Rolle/K. Schmidt/R.F. Docter (eds.), *Archäologische Studien in Kontaktzonen der antiken Welt* [=Festschrift H.G. Niemeyer], Göttingen, 359-373.

Docter, R.F. 1999, Transport Amphorae from Carthage and Tocanos: an economic-historical approach to Phoenician expansion, in A. González Prats (ed.), *Actas del I Seminario Internacional sobre Temas Fenicios, La cerámica fenicia en Occidente: centros de producción y áreas de comercio (Guardamar de Segura 1997)*, Alicante, 89-109.

Docter, R.F./M.B. Annis/L. Jacobs/G.H.J.M. Blessing 1997, Early Central Italian Transport Amphorae from Carthage: Preliminary Results, *RStFen* 25, 15-58.

Dunbar, C.O./J. Rodgers 1957, *Principles of Stratigraphy*, New York/London.

Gjerstad, E. 1948, *SCE* IV 2: *The Cypro-Geometric, Cypro-Archaic and Cypro-Classical periods*, Stockholm.

Gjerstad, E. 1960, Pottery Types. Cypro-Geometric to Cypro-Classical, *OpAth* 3, 105-122.

Gjerstad, E. 1974, The Stratification at Al Mina (Syria) and its Chronological Evidence, *ActaArch* 45, 107-123.

Gómez Toscano, F./M.A. López Domínguez/J. de Haro Ordóñez 2002, Arqueología Urbana en Huelva. El solar de la calle San Salvador 2, *Anuario Arqueológico de Andalucía* 1 (1999) 315-319.

González de Canales, F. 2004, *Del Occidente mítico griego a Tarsis-Tarteso. Fuentes escritas y documentación arqueológica*, Madrid.

Guido, M. 1963, *Sardinia*, London.

Kearsley, R.A. 1989, *The pendent semi-circle skyphos*, London.

Køllund, M. 1992-1993, Sea and Sardinia, in Interactions in the Iron Age: Phoenicians, Greeks and the Indigenous Peoples of the Western Mediterranean (Amsterdam, 26-27 March 1992), *HambBeitrA* 19-20, 201-204.

Kourou, N./N. Stampolidis 1996, À propos d'une amphore géométrique pansue du type à trois métopes de cercles concentriques. Reconsidération d'un cadre théorique, *BCH* 120, 705-719.

Malkin, I. 1998, *The Returns of Odysseus: Colonization and Ethnicity*. Berkeley.

Mason, B. 1966, *Principles of Geochemistry*, 3rd ed., New York/London/Sidney.

Nitsche, A. 1986-1987, Bemerkungen zu Chronologie und Herkunft der protogeometrischen und geometrischen Importkeramik von Tyros, *HambBeitrA* 13-14, 7-49.

Oggiano, I. 2000, La ceramica fenicia di Sant'Imbenia (Alghero - SS), in *Atti del Primo Congresso Internazionale Sulcitano, La ceramica fenicia di Sardegna: dati, problematiche, confronti (Sant'Antioco 1997)*, Rome, 235-258.

Orlandini, P. 1982, La céramique grecque ou de tradition grecque au VIIIe siècle en Italie Centrale et Méridionale, in *Cahiers du Centre Jean Bérard* III, 189-191.

Popham, M. 1994, Precolonization: early Greek contacts with the East, in G.R. Tsetskhladze/F. De Angelis (eds.), *The Archaeology of Greek Colonization: Essays Dedicated to Sir John Boardman*, Oxford, 11-34.

Ramón Torres, J. 1995, *Las ánforas fenicio-púnicas del Mediterráneo Central y Occidental*, Barcelona.

Ridgway, D. 1981, The foundation of Pithekoussai, in *Nouvelle contribution à l'étude de la société et de la colonisation eubéennes*, Naples, 45-56.

Ridgway, D. 1995, Archaeology in Sardinia and South Italy 1989-94, *ARepLond* 1994-1995, 75-96.

Ridgway, D. 1997, *El alba de la Magna Grecia*, Barcelona (= *L'alba della Magna Grecia*, Milan 1984).

Ruiz-Gálvez, M.L. 1995a, Cronología de la Ría de Huelva en el marco del Bronce Final de Europa Occidental, in M. Ruiz-Gálvez (ed.), *Ritos de paso y puntos de paso. La Ría de Huelva en el mundo del Bronce Final Europeo*, Madrid, 79-83.

Ruiz-Gálvez, M.L. 1995b, Circulación de metal en el Bronce del Suroeste, in *Actas del Congreso Conmemorativo del V Symposium Internacional de Prehistoria Peninsular: Tartessos 25 años después, 1968-1993 (Jerez de la Frontera 1993)*, Jerez/Cádiz, 507-522.
Ruiz Mata, D./J.M. Blázquez Martínez/J.C. Martín de la Cruz 1981, Excavaciones en el Cabezo de San Pedro (Huelva). Campaña de 1978. *Huelva Arqueológica* 5, 149-316.
Shaw, J.W. 2000, The Phoenician Shrine, *ca*. 800 a.C., at Kommos in Crete, in *Actas del IV Congreso Internacional de Estudios Fenicios y Púnicos (Cádiz 1995)* III, Jerez/Cádiz, 1107-1119.
Shefton, B.B. 1982, Greeks and Greek Imports in the South of the Iberian Peninsula. The archaeological evidence, in H.G. Niemeyer (ed.), *Phönizier im Westen,* Madrider Beiträge 8, 337-370.
Vagnetti, L. 1989, A sardinian askos from Crete, *BSA* 84, 335-60.
Yon, M. 1976, *Manuel de Céramique Chypriote* I: *Problèmes historiques, vocabulaire, méthode*, Lyon.

C/ MÉNDEZ NÚÑEZ 2, 4°A
E-21001 HUELVA
SPAIN
fgonzalezdecanales@yahoo.es

BABesch 81 (2006, 31-36. doi: 10.2143/BAB.81.0.2014423)

An interpretation of the radiocarbon determinations of the oldest indigenous-Phoenician stratum thus far, excavated at Huelva, Tartessos (south-west Spain)

Albert J. Nijboer and J. van der Plicht

Abstract

*The radiocarbon dates from the archaeological stratum at Huelva, Tartessos (south-west Spain) that contains the oldest Phoenician material in the western Mediterranean so far recovered, are presented and interpreted. The quality of the radiocarbon determinations is assessed as excellent. The archaeological interpretation of these radiocarbon dates is more intricate since the implications are significant. First the archaeological stratum as found at Huelva is examined, followed by a discussion on other high quality radiocarbon determinations in the Western Mediterranean including those from the earliest settlement layers of Carthage. Secondly the chronology of the early Phoenician advance into the Western Mediterranean is debated. A final aspect discussed in relation to the age and character of the Huelva deposit, is its intriguing link with a much debated account in the Bible mentioning Tarshish, King Hiram I of Tyre, Solomon and their search for precious metals and other luxuries. The radiocarbon dates presented in relation with its archaeological context, document that the Phoenicians crossed the whole Mediterranean, from Tyre to Huelva, from onwards the first half of the 9th century BC if not before.**

Bone samples of cattle, taken from the archaeological context described in the previous article, have been dated with the radiocarbon method (cf. Nijboer 2005, 534-537). The results of these determinations and their calibration with Oxcal v3.10 are given in Table 1. The interpretation of these results has to include an assessment of the quality of the radiocarbon determinations as well as an assessment of the archaeological context dated.

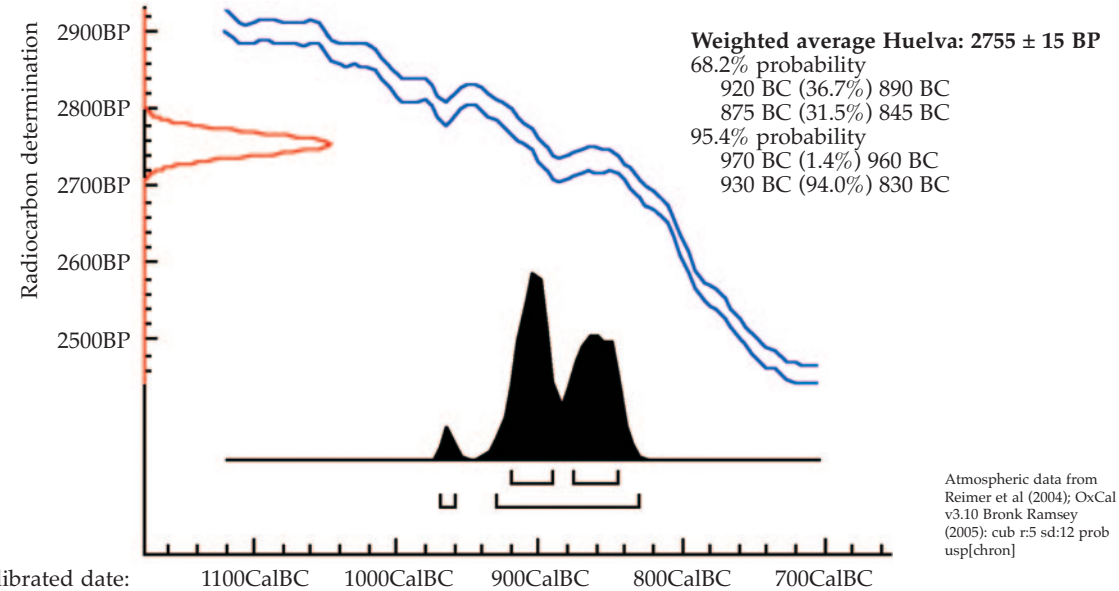
The quality of the radiocarbon determinations is high: the error of the analysis is low (± 25 years) and the quality parameters of the bone samples such as the organic content and $\delta^{13}C$ value are good. The results obtained are therefore excellent as far as the radiocarbon method is concerned. The calibration of the measured dates indicates that the bones date between 1000 and 820 BC. The mean-age of the three radiocarbon dates is 2755 +/- 15 BP which yields a calibrated age range of 930-830 BC with a 94% probability (*Table 1*).

The radiocarbon interpretation of these results, as given above, is quite straightforward. However, the archaeological interpretation is more complicated since the implications are considerable. The waterlogged, archaeological stratum investigated at Huelva, 5 to 6 metres under the present street level, is secondary. This means that the deposit was not stratified and that it contains mixed older and younger material, which is dated in the conventional chronology from around 900 to 770 BC. The material derives from a single stratum *in situ* in a layer of grey-dark estuary sediments (González de Canales Cerisola *et al.* 2004). The secondary nature of this archaeological context limits its significance for a close chronological reading of the radiocarbon results. Even so, it allows for a calculation of the mean-age of the three radiocarbon dates available. This mean-age cannot be used to date individual shards as found in the deposit. Thus it cannot date the Middle-Geometric shards in the deposit since the mean-age indicates that there can be shards older or younger than the average date range from 930 to 830 BC. Moreover the scholars who studied the material, have deduced from the percentages of the different types of ceramics found, that the majority of the Phoenician material pertains to the end of the period represented in the deposit. Nonetheless, this archaeological stratum holds prospects for future excavations at Huelva. One could almost immediately start digging to the appropriate levels on the *Plaza de la Monjas* next to the stratum reported above, looking for a stratified context.

Let us play the devils advocate. A colleague might object and argue that the radiocarbon dates from Huelva are related to the indigenous material

Table 1. Radiocarbon dates and their calibration with the Oxcal v3.10 program of the oldest Indigenous/ Phoenician layers at Huelva. ^{14}C dates and quality parameters ($^{13}\delta$, %C) for 3 Huelva bone samples of cattle.

Sample	Lab nr. GrN	^{14}C age (BP)	error (1σ)	$^{13}\delta$ (‰)	Carbon (%)
Huelva 1	GrN-29511	2745	25	-19.98	49.8
Huelva 2	GrN-29512	2775	25	-20.94	41.7
Huelva 3	GrN-29513	2740	25	-20.08	50.2
Weighted average		2755	15		



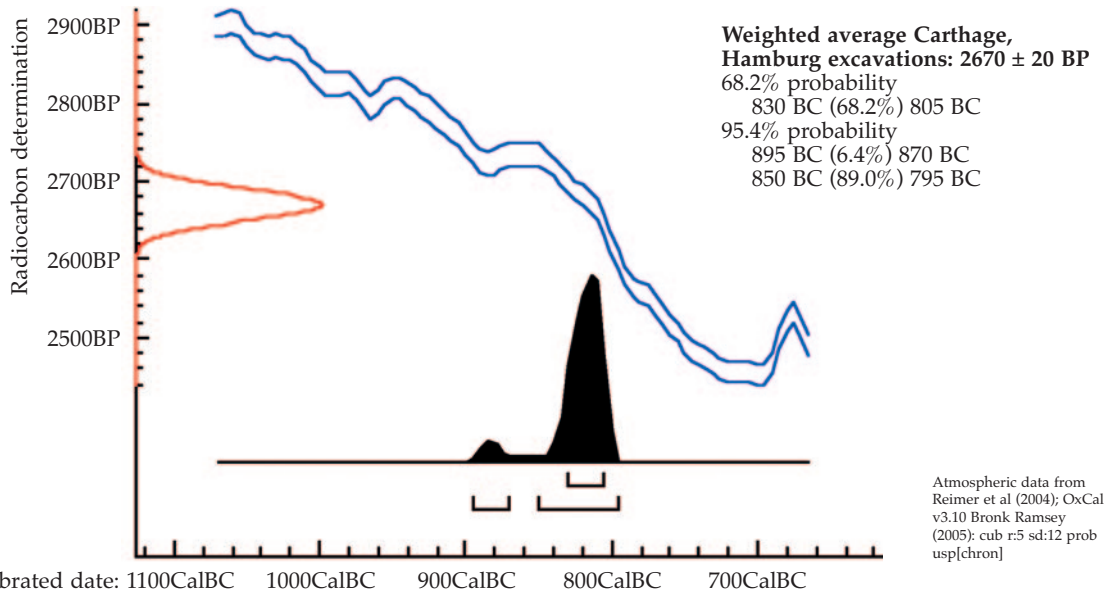
Radiocarbon determinations Huelva	Calibration 68.2% probability	Calibration 95.4% probability
weighted average: 2755 ± 15 BP	920 BC (36.7%) 890 BC 875 BC (31.5%) 845 BC	970 BC (1.4%) 960 BC 930 BC (94.0%) 830 BC
GrN-29511: 2745 ± 25 BP	915 BC (68.2%) 840 BC	970 BC (2.5%) 950 BC 940 BC (92.9%) 820 BC
GrN-29512: 2775 ± 25 BP	980 BC (64.0%) 890 BC 870 BC (4.2%) 850 BC	1000 BC (95.4%) 840 BC
GrN-29513: 2740 ± 25 BP	905 BC (68.2%) 840 BC	970 BC (1.2%) 960 BC 930 BC (94.2%) 820 BC

that might be older than the Phoenician material in the same stratum. In theory this could be possible but at present one cannot separate in time the indigenous from the early Phoenician material at Huelva. Moreover this colleague would create a highly unlikely situation with a context containing only old indigenous material followed in time by a context with just later Phoenician material. Both contexts would subsequently be mixed as found in the stratum discussed. His reconstruction would lead to the existence of cultures unable to interact. However, they would have to interact otherwise there was no trade or production as demonstrated by the artefacts found. In addition, the deposit at Huelva mirrors the slightly later context at Sant'Imbenia on Sardinia where Phoenician material was also found in an indigenous context (Baffico *et al*. 1995; Oggiano 2000).

In spite of the shortcomings caused by the secondary nature of the archaeological deposit investigated, we still consider the radiocarbon results obtained valuable since they are the oldest high-quality radiocarbon dates presently available for a Phoenician context in the western Mediterranean and beyond, the Atlantic. They are important for an ongoing debate regarding the chronology of the Phoenician and Greek advance towards the western Mediterranean (cf. Nijboer forthcoming a).

Table 2. Radiocarbon dates and their calibrations with the Oxcal v3.10 program of the oldest settlement layers of the excavations at Carthage by the University of Hamburg. ^{14}C dates and quality parameters ($^{13}\delta$, %C) for the 4 Carthage bone samples of cattle.

Sample	Lab nr. GrN	^{14}C age (BP)	error (1σ)	$^{13}\delta$ (‰)	Carbon (%)
Ka93-181	GrN-26090	2650	30	-20.40	45.9
Ka93-183	GrN-26091	2710	30	-20.36	47.4
Ka93-220	GrN-26093	2640	50	-21.00	47.7
Ka93-499	GrN-26094	2660	30	-20.22	41.7
Weighted average		2670 ± 20 BP			



Radiocarbon determinations Carthage Hamburg excavations	Calibration 68.2% probability	Calibration 95.4% probability
weighted average: 2670 ± 20 BP	830 BC (68.2%) 805 BC	895 BC (6.4%) 870 BC 850 BC (89.0%) 795 BC
GrN-26090: 2650 ± 30 BP	830 BC (68.2%) 795 BC	900 BC (95.4%) 780 BC
GrN-26091: 2710 ± 30 BP	895 BC (68.2%) 820 BC	920 BC (95.4%) 800 BC
GrN-26093: 2640 ± 50 BP	890 BC (3.5%) 880 BC 850 BC (64.7%) 770 BC	920 BC (93.5%) 750 BC 690 BC (1.9%) 660 BC
GrN-26094: 2660 ± 30 BP	835 BC (68.2%) 795 BC	900 BC (95.4%) 790 BC

With these finds from Huelva, it becomes obvious that the Phoenicians established trading links with the Western Mediterranean and beyond prior to the Greeks. The significance of the Huelva radiocarbon dates lies as well in their relation with other radiocarbon dates for Phoenician settlements in the western Mediterranean.

Aubet and her team have suggested for Spain to raise the absolute chronology of the establishment of Phoenician settlements on its southern coast by about 50 to 100 years into the 9th century BC on account of an interpretation of the available radiocarbon dates (Castro Martinez 1994, 143-146; Aubet 2001, 372-381). In the revised edition of her book *The Phoenicians and the West*, after a discussion of about 60 radiocarbon dates, she states: 'For a start, it should be possible to place the beginnings of Phoenician colonization in the Malaga-Algorrobo region as early as the 9th century BC and at the beginning of the 8th century BC in the Vélez-Toscanos region' (Aubet 2001, 381).

Although the radiocarbon dates discussed in her book are not of high quality, it is unlikely that they are all affected by old-wood effect or other

shortcomings. Their interpretation might require slight adjustments once high quality radiocarbon analyses become available for early contexts of Phoenician settlements in Spain but the tendency of a higher absolute chronology into the 9th century BC is evident from the radiocarbon dates listed by her. Moreover Aubet's reconstruction of the Phoenician advance towards the western Mediterranean during the 9th century BC is confirmed by the high quality radiocarbon results from Huelva presented in Table 1 and those from the oldest settlement layers at Carthage listed in Table 2.

The radiocarbon determinations from Carthage are associated with four contexts that contained:

1 Euboean shard,
2 Corinthian fragments,
2 Attic fragments,
1 fragment of Greek plain ware,
8 Nuraghic shards,
7 shards from South/South-West Spain,
3 fragments of plain ware from the Levant,
61 shards from local ceramics and
19 fragments of Red Slip Ware not assigned to a specific region (Docter *et al*. 2005).

The excavators, H.G. Niemeyer and R.F. Docter, concluded that these early contexts from Carthage dated with the radiocarbon method, are secondary thus containing ceramics from different ages on account of the Greek ceramics present. Otherwise the absolute chronology of the Late Geometric fine wares had to be raised (see however Nijboer forthcoming a). It needs to be pointed out that several bones were used for each radiocarbon analysis since the Groningen laboratory received a few animal bones per context. Therefore the conventional radiocarbon method could be used as expressed in the code (GrN), which can obtain a more precise result but requires substantial samples (up to 400 grams of bone was used as sample per context). In case the ceramics from these contexts are secondary, so the bones in these layers could be of different age.

The radiocarbon method provides us with a mean age of the bones used as sample. Consequently the radiocarbon results would represent an average date of each of the four contexts examined. These results document that the earliest contexts of Phoenician Carthage excavated thus far, date to the second half of the 9th century BC. Because the ceramics are considered to be secondary by the excavators, it is legitimate to calculate the mean value of the four radiocarbon results. This calculation with Oxcal v3.10 indicates that livestock was slaughtered in Phoenician Carthage in the period 850-795 BC with a 90% probability, being the average absolute date of more than 1 kg animal bones that was used as a sample for the four radiocarbon determinations (see *Table 2*). A date of 850-795 BC for the earliest settlement layers of Carthage excavated, more or less coincides with the traditional foundation date of Carthage (814/813 BC) but not with the conventional absolute chronology of the Greek Late Geometric ceramics present in one of these four contexts. With these radiocarbon results it becomes likely that the Phoenicians were present in Carthage during the late 9th century BC especially if one takes into account that the area investigated is not considered to be the oldest part of Carthage that was settled.

In the past years Docter continued excavating at Carthage on a site slightly to the south of the Hamburg excavations. These excavations have yielded amongst others ten radiocarbon dates from the lowest layers that appear to be slightly younger than the radiocarbon results from the Hamburg excavations. These ten radiocarbon dates move into the so-called Hallstatt plateau of the calibration curve but in our opinion still refer to the late 9th and early 8th century BC (Docter *et al*. forthcoming; Maraoui Telmini *et al*. forthcoming). The Hallstatt plateau is a plateau in the calibration curve from the early 8th till the late 5th century BC. This severely limits the use of ^{14}C dating during this period.

In addition to the radiocarbon results for Phoenician presence in the western Mediterranean, one can compare the radiocarbon dates from Huelva (*Table 1*) with other high-quality radiocarbon sequences from other parts of the Mediterranean.

It is striking that the mean age of the Huelva radiocarbon dates (2755 ± 15 BP) coincides with the weighed average date obtained for Tel Rehov stratum IV (2755 ± 25 BP), a settlement in the Jordan Valley about 100 km to the south-east of Tyre (Coldstream/Mazar 2003; Bruins *et al.* 2003; Finkelstein/Piasetzky 2003; Bruins/van der Plicht 2003; Coldstream 2003; Gilboa/Sharon 2003). This Tel is crucial for biblical archaeology, in particular for the Iron Age chronology. The mean age of the radiocarbon results from Huelva and Tel Rehov imply synchronism. However the results from Tel Rehov derive from a stratified site making a close chronological reading possible, while the results from Huelva refer to a secondary deposit as discussed above.

The results from Huelva can also be compared to a radiocarbon sequence for *Latium Vetus* (central Italy) from the Late Bronze Age to the Orientalizing period (Nijboer *et al.* 1999-2000; research in progress to be presented during the 15th UISPP Congress at Lisbon in 2006). The Huelva radiocarbon results are

more or less similar to those obtained for Latial period II (early Iron Age). The Italian shard in the deposit at Huelva can be assigned to Latial period II (see Fig. 27 of the previous article: Bietti Sestieri 1992, p. 277-278, 595, 599, 601-602, Tav. 20). The fabric of this shard from Huelva needs to be assessed for a conclusive attribution to a specific region in Italy since, during inspection, I could ascertain that it pertains to the early Iron Age but was puzzled by its physical characteristics.

A final aspect discussed here in relation to the age and character of the Huelva deposit, is its intriguing link with a much debated account in the Bible (cf. Aubet 2001; Lipiński 2004). There are numerous references in the Scriptures to a place called Tarshish, a location where one could acquire precious metals and other luxuries (Lipiński 2004, 217, 220, 225-265). We follow here Lipiński since he argues that Tarshish is metal-rich Tartessos in south-west Spain, a region of which Huelva is the primary settlement. The discussed, archaeological deposit from Huelva favours this view since it represents the oldest Phoenician material recovered thus far, in the western Mediterranean.

According to I Kings 10, 22 and II Chron. 9, 21, King Hiram I of Tyre and Solomon (both ca 970/960-930 BC; the exact length of their reigns is unknown since royal annals did not exist at that time) built merchant ships called the 'Tarshish fleet', which sailed every three years and returned with precious cargo. The three years interval is fairly realistic considering possible stopping posts and the length of the sailing season in Antiquity, which would take a ship one season to arrive to the other side of the Mediterranean. The collaboration between Hiram I and Solomon is elaborated in other parts of the Scriptures as well, for example, in the construction of the first temple on Temple Mount in Jerusalem (I Kings 5, 1-11 and 32; I Kings 7, 13-15). Since all this creates such an appealing story of royal brotherhood in the Levant during the Iron Age, it is unfortunate that Lipiński argues that the involvement of Solomon in the travels to Tarshish is an anachronism. He implies that this is a 5th-century BC invention (Lipiński 2004, 247). It will be obvious that the exegesis of the Scriptures is far beyond the scope of this paper that discusses mainly the chronology of the stratum as found in Huelva *Anno Domini* 1998.

Biblical archaeology is a delicate subject. First one would need to define as recorded by archaeology, the material culture of the short-lived United Kingdom of David and Solomon. Secondly one has to investigate whether anything of this material culture typical for Solomon's reign, was recovered in the archaeological deposit at Huelva. This does not appear to be the case. So far, the excavations at Huelva document the early Phoenician interest in travels to the far West but not the participation of Solomon.

The Huelva deposit demonstrates that Phoenician contacts with cultures in the Western Mediterranean and beyond are far older than previously thought possible. They start probably during the first half of the 9th century BC if not before (*Table I*: the radiocarbon result GrN-29512: 2775 ± 25 BP refers mainly to the 10th century BC and can be dated to the period 980 to 890 BC with a 60% probability, thus covering the reign of Hiram I of Tyre. Unfortunately we do not know which artefacts from the deposit at Huelva can be associated with GrN-29512). This immediately raises the question of the nature of these contacts between Phoenicia and Huelva. Are we dealing with directional trade without occasional stopping posts or are these contacts the result of indirect trade? The make-up of the deposit favours the last option even if the final destination, metal-rich Tartessos, may have been the goal. Goods from all over the Mediterranean were found in the deposit, though the fast majority of the shards is indigenous and Phoenician. Looking at possible ports of call between the Levant and south west Spain on the Atlantic, one can think of several locations. The early Levantine goods found at sites such as Palaepaphos-Skales on Cyprus, Kommos on Crete, Torre Galli in southern Italy and Sant'Imbenia on Sardinia, indicate that during the early Iron Age occasionally stops were made and goods were exchanged (Palaepaphos-Skales in Karageorghis 1983; Kommos in Shaw 1989, 1998, Bikai 2000 and Betelli 2002, 126-127; Torre Galli in Pacarelli 1999; Sant'Imbenia in Baffico *et al*. 1995 and Oggiano 2000). As such these early Levantine goods are the forerunners of things to come, of a trend that affected various parts of the Mediterranean and that is known as the Orientalizing phenomenon in which the Phoenicians not only exchanged goods but came to influence the cultural development of various communities with which they were in touch (cf. Burkert 1992: 2004; Prayon/Röllig 2000; Nijboer forthcoming b).

In 1983 Bikai wrote 'The fact however that more than half of the tombs of Palaepaphos-Skales had 11th to 10th century Phoenician pottery in them leads one to ask whether the trade route through Kition, Amathus and now Paphos, ended here' (Bikai 1983, 405). The archaeological deposit at Huelva documents that Phoenician commerce during the Iron Age did not end in western Cy-

prus. The Phoenicians crossed the whole Mediterranean from onwards the first half of the 9th century BC if not before.

NOTES

* We would like to thank Jan Lanting, Harm Jan Streurman, Roald Docter, H.-G. Niemeyer, M. Aubet, Anna Maria Bieti Sestieri, Anna de Santis, Flavia Trucco, Nicoletta Martinelli, Olivia Pignatelli and many other colleagues for their assistance and their generosity to share information. In addition Albert Nijboer would like to thank Fernando González de Canales Cerisola and his friends Leonardo Serrano Pichardo and Jorge Llompart Gómez for the efforts they took and for their kind welcome when Robert Novella and I were in their home town Huelva from October 9th till 11th, 2005. It was great to see together the Rio Tinto mines and the Museo Provincial at Huelva.

BIBLIOGRAPHY

Aubet, M.E. 2001, *The Phoenicians and the West*, 2nd edition, Cambridge.

Bafico, S./R. D'Oriano/F. Lo Schiavo 1995, Il Villaggio nuragico di S. Imbenia ad Alghero (SS), Nota Preliminare, in *Actes du IIIe Congrès International des Études Phéniciennes et Puniques*, 1, 87-98.

Betelli, M. 2002, *Italia Meridionale e Mondo Miceneo*, Florence.

Bietti Sestieri, A.M. (ed.) 1992, *La necropoli laziale di Osteria dell'Osa*, Rome.

Bikai, M. 1983, Appendix II, The Imports from the East, in Karageorghis 1983, Konstanz, 396-405.

Bikai, P.M. 2000, The Phoenician Ceramics from the Greek Sanctuary, *Kommos* IV: *The Greek Sanctuary*, in J.W. Shaw/M.C. Shaw (eds.), *Kommos* IV: *The Greek Sanctuary*, Princeton, 302-312.

Bruins, H.J./J. van der Plicht/A. Mazar 2003, 14C Dates from Tel Rehov: Iron-Age Chronology, Pharaohs, and Hebrew Kings, *Science* 300, 315-318.

Bruins, H.J./J. van der Plicht, 2003, Response to Comment on "14C Dates from Tel Rehov: Iron-Age Chronology, Pharaohs, and Hebrew Kings", *Science* 302, 568c.

Burkert, W. 1992, *The Orientalizing Revolution: Near Eastern Influence on Greek culture in the early Archaic Age*, Cambridge MA.

Burkert, W. 2004, *Babylon, Memphis, Persepolis: eastern contacts of Greek culture*, Cambridge MA.

Castro Martinez, P.V. 1994, *La Sociedad de los Campos de Urnas en el nordeste de la Península Ibérica* (BAR International Series 592), Oxford.

Coldstream, J.N. 2003, Some Aegean reactions to the chronological debate in the southern Levant, *Journal of the Institute of Archaeology of Tel Aviv University*, 30.2, 247-258.

Coldstream, J.N./A. Mazar, 2003, Greek pottery from Tel Rehov and Iron Age chronology, *Israel Exploration Journal* 53, 29-48.

Docter, R.F./H.G. Niemeyer/A.J. Nijboer/J. van der Plicht 2005, Radiocarbon dates of animal bones in the earliest levels of Carthage, in G. Bartoloni/F. Delpino (eds.), *Oriente e Occidente. Metodi e discipline a confronto. Riflessioni sulla cronologia dell'età del ferro in Italia*, Pisa, 557-577.

Docter, R.F./F. Chelbi/B. Maraoui Telmoni/A.J. Nijboer/J. van der Plicht/W. van Neer/A. Alen/K. Mansel/S. Garsallah forthcoming, New radiocarbon dates from Carthage: bridging the gap between history and archaeology?, in A.M. Arruda (ed.), *Proceedings of the VIth International Congress of Phoenician and Punic Studies* (Lisbon, 25 September - 1 October, 2005).

Finkelstein, I./E. Piasetsky 2003, Wrong and Right; High and Low 14C dates from Tel Rehov and Iron Age chronology, *Journal of the Institute of Archaeology of Tel Aviv University* 30.2, 283-295.

Gilboa, A./I. Sharon 2003, An archaeological contribution to the Early Iron Age chronological debate: Alternative chronologies for Phoenicia and their effects on the Levant, Cyprus and Greece, *BASOR* 332, 7-80.

González de Canales Cerisola, F./L. Serrano Pichardo/J. Llompart Gómez 2004. *El emporio fenicio precolonial de Huelva (ca. 900-770 a.C.)*, Madrid.

Karageorghis, V. 1983, *Palaepaphos-Skales: An Iron Age cemetery in Cyprus*, Konstanz.

Lipiński, E. 2004, *Itineraria Phoenicia* (Studia Phoenicia 18), Leuven.

Maraoui Telmoni, B/ F. Chelbi/R.Docter/A.J. Nijboer/J. van der Plicht/W. van Neer/A. Alen forthcoming, in C. Sagona (ed.), *Beyond the Homeland: Markers in Phoenician Chronology* (Ancient Near Eastern Studies), Leuven.

Nijboer, A.J./J. van der Plicht/A.M. Bietti Sestieri/A. de Santis 1999-2000, A high chronology for the early Iron Age in Central Italy, *Palaeohistoria* 41/42, 163-176 (also in www.LCM.RUG.NL under publications).

Nijboer, A.J. 2005, La cronologia assoluta dell'età del Ferro nel Mediterraneo, dibattito sui metodi e sui risultati, in G. Bartoloni/F. Delpino (eds.), *Oriente e Occidente. Metodi e discipline a confronto. Riflessioni sulla cronologia dell'età del ferro in Italia*, Pisa, 527-556.

Nijboer, A.J. forthcoming a, The Iron Age in the Mediterranean: a Chronological Mess or 'Trade before the Flag', Part II, in *Ancient West & East* 4.2.

Nijboer, A.J. forthcoming b, *Coppe di tipo Peroni* and the beginning of the Orientalizing phenomenon in Italy during the late 9th century BC, in *Studi in onore di Renato Peroni*, Firenze.

Oggiano, I. 2000, La ceramica fenicia di Sant'Imbenia (Alghero-SS), in P. Bartoloni/L. Campanella (eds.), *La ceramica Fenicia di Sardegna*, Rome, 235-258.

Pacciarelli, M. 1999, *Torre Galli: La necropoli della prima età del Ferro (Scavi P. Orsi 1922-1923)*, Catanzaro.

Prayon, F./W. Röllig 2000, *Der Orient und Etrurien* (Akten des Kolloquiums, Tübingen 1997), Pisa/Rome.

Shaw, J.W. 1989, Phoenicians in Southern Crete, *AJA* 93, 165-183.

Shaw, J.W. 1998, Der phönizische Schrein in Kommos auf Kreta (ca. 800 v.Chr.), in R. Rolle/K. Schmidt (eds.), *Archäologische Studien in Kontaktzonen der antiken Welt*, Göttingen, 93-104.

UNIVERSITY OF GRONINGEN
GRONINGEN INSTITUTE OF ARCHAEOLOGY
POSTSTRAAT 6
NL-9712 ER GRONINGEN
a.j.nijboer@rug.nl
www.lcm.rug.nl

BABesch 81 (2006, 37-89. doi: 10.2143/BAB.81.0.2014424)

Carthage Bir Massouda
Second preliminary report on the bilateral excavations of Ghent University and the Institut National du Patrimoine (2003-2004)

Roald F. Docter, Fethi Chelbi, Boutheina Maraoui Telmini, Babette Bechtold, Hamden Ben Romdhane, Vanessa Declercq, Tijs De Schacht, Eline Deweirdt, Alain De Wulf, Lamia Fersi, Suzanne Frey-Kupper, Soumaya Garsallah, Ineke Joosten, Hans Koens, Jalel Mabrouk, Taoufik Redisssi, Sihem Roudesli Chebbi, Karen Ryckbosch, Karin Schmidt, Birgit Taverniers, Julie Van Kerckhove, Lieven Verdonck

Abstract

New investigations on the Bir Massouda site have refined our knowledge of Punic Carthage. In particular the southern casemate city wall has been dated more precisely to around the middle of the 7th century BC. Human remains in secondary position seem to confirm the existence of Carthage's earliest necropolis on the site. Special attention goes to the Middle and Late Punic periods: a septic pit and its homogeneous fill are presented and discussed in the perspective of Carthage's garbage collection system. A strongbox or cultic depository with two vessels and red ochre offering is discussed. A terracotta tile floor is presented as a rare example of the pavimenta punica. *Finally, some prospects are given on the site conservation's measures and the publication trajectory.**

1 INTRODUCTION

F. Chelbi, R.F. Docter & B. Maraoui Telmini

The Bir Massouda site has become a key site in Carthaginian archaeology (*fig. 1*).[1] In this second preliminary report we place a strong accent on the Middle and Late Punic periods, since especially the campaigns of the years 2003 and 2004 yielded many homogeneous contexts of these periods. As such, the report is complementary to the first preliminary report for *BABesch* that mainly outlined the development of the site in the Archaic period, the 8th, 7th and 6th centuries BC.[2] These two preliminary reports on the Punic archaeology of the Bir Massouda site will be complemented in the present volume of *BABesch* by the report on the Roman, Vandal and Byzantine structures in the northern sector excavated by the team of Cambridge University (see pp. 199-226, and here *fig. 1*).

The excavation of summer 2003 (12 July-9 August) saw the involvement of a large team of 22 persons.[3] Besides that, a team of 21 Tunisian and international exchange students of AFS (A Friend Somewhere/American Field Service) helped in the field and the finds' laboratory. In the main excavation campaign of 2004 (1-30 September) the team was with 30 persons even larger than in 2003.[4] The excavation that year was concluded in a very short campaign between 6 and 12 November.[5] The 2004 campaign also saw the participation of a small team of topographers, directed by A. De Wulf of Ghent University (infra).

In 2003 we excavated in five trenches at the same time, Trenches 2, 3, 4, 5, and 8 (*fig. 1*).[6] In advance of that campaign, the Tunisian team of the Conservation du Site de Carthage, under the aegis of the Institut National du Patrimoine and directed in the field by F. Chelbi, excavated the upper stratigraphy in three Trenches (3, 4, and 5) till the Late Punic level of 146 BC.[7] The (sub-) recent, Medieval, Byzantine, Vandal, Late Roman, Roman Imperial and Augustan layers in these trenches have been excavated by this team. These layers will be published separately from the bilateral Tuniso-Belgian excavations. In 2004, the fieldwork was limited to four Trenches (1/7, 2, 4, and 6), while only limited excavation took place in Trench 3.

2 TOPOGRAPHY

A. De Wulf

When the excavations on the Bir Massouda terrain were taken up again in 2000, the teams of Cambridge University and the University of Amsterdam decided to set out a joint master grid over the terrain (*fig. 1*). This would enable coordinated

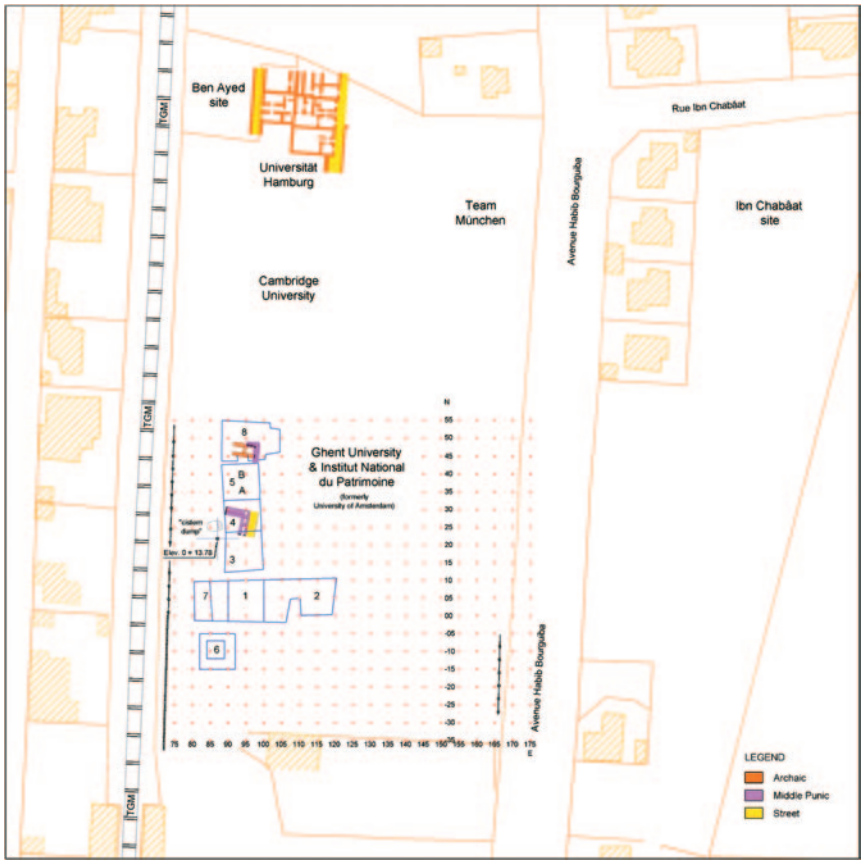


Fig. 1. Bir Massouda site (AutoCAD version prepared by D. Van Damme, 2005). Plan based on versions of the University of Amsterdam (A. Mezzolani, 2001) and UGent/INP (Société ATHAR, 2003). Reconstruction of the exact position of the house architecture of 'layer IVa' in the excavations of the University of Hamburg is inserted (based on Docter et al. forthcoming a).

analyes in the future. The elevations used in the grid system were related to the level of the Hamburg University site in the north of the terrain. The Hamburg point zero (15.84 m above sea level) had been put in place in 1986 by the topographers working for the DAI (Rome) and had in its turn been related to an elevation of the Tunisian Topographical Service near the Magon Quarter in use since 1974.[8] By the year 2000, however, the original point zero of the Hamburg plot, unused since 1995, had become invisible by heavy overgrowth. Moreover, it was suspected that the pressure of tree roots had moved its position. Therefore, the topographers of the Cambridge team and R.F. Docter reconstructed the elevation by re-calculating the known elevation of the stone wellhead of 'phase I', strongly embedded in the virgin soil. This elevation above sea level has been used since as the base of all measuring in the field, facilitating temporary points zero in different places on the site.[9]

While studying the elevations of several features encountered in the excavations of the University of Amsterdam on the site, Docter noticed that a Medieval mosaic floor (BM00/3006+3007), found just below the present-day surface, theoretically should have been situated well above the ground level in 1958, at the time Carthage had been mapped thoroughly.[10] Since this may be excluded, it was decided to take the first opportunity to re-measure the relative elevation of the Bir Massouda terrain, starting directly from the Tunisian geodetic point on the Byrsa hill.[11] In 2004, starting from that level, the new point zero of the Bir Massouda site could be recalculated to be at 13.781 m above sea level (*fig. 3*, marked 'Elev. 0 = 13.78').[12] The levels used on the Bir Massouda site from 2000 till 2003, and in the Hamburg excavations from 1986 till 1995 proved to be 28 cm too high.[13]

Next to this altimetric survey, a planimetric survey was carried out with two objectives in mind. In the first place, the existing local master grid, which had partly disappeared, should be reconstructed, starting from two retraced points of this grid system. A general overview ground-map was established using Autocad 2002 software (*fig. 1*). In it, the location of the trenches and Roman and Punic structures were accurately measured using the totalstation. The planimetric accuracy can be estimated to 2 cm in the real

world coordinate system. In the second place, three other sites in the Carthaginian settlement were to be linked in planimetry and altimetry with the Bir Massouda site: the terrain excavated by the University of Hamburg, the Ibn Chabâat site of the DAI (both *fig. 1*), and the Magon Quarter near the sea. The total distances were divided in 2, 6 and 15 segments respectively, which yielded a maximum line-of-sight distance of approximately 50 m and a planimetric and altimetric accuracy between 3 and 8 cm. This permits the accurate insertion of older excavation maps of these sites into a new groundmap of (Punic) Carthage.

3 RESULTS: ARCHAIC PERIOD

F. Chelbi, R.F. Docter & B. Maraoui Telmini

The Bir Massouda site has decisively changed our knowledge of the urban structure of Punic Carthage, especially with regard to the earliest phase of the Ancient metropolis, the Archaic period. But what exactly is the earliest phase? Ancient tradition, through Timaios of Taormina (ca 350-260 BC), seems clear in establishing a foundation date: 814/813 BC. It has often been stressed that Carthage holds a special position among the Phoenician settlements in the West.[14] Foundation dates may be calculated for more (and apparently earlier) settlements, like for example Utica and Gadir/Cádiz, but in the case of Carthage this foundation date is closely connected with a foundation myth, a story that may contain some historical elements. This story of princess Elisa of Tyre (the Vergilian queen Dido), who founded the city on the Byrsa Hill after having bought a 'small' piece of land from the Libyans, is too well known to need full rephrasing. An ox hide, cut into stripes, delimited the confines of the future city. The traditional foundation date has never been corroborated by archaeological finds, though, neither in the necropoleis, nor in the tophet (sanctuary annex children's burial place), nor in the settlement. The conventional dates of the Greek Late Geometric pottery imported into Carthage suggest Phoenician presence on the site not earlier than ca 760 BC.[15] This leaves a gap of more than 50 years between the traditional and the conventional archaeological dates. Five years ago, the team of the University of Hamburg excavations in Carthage was approached by A.J. Nijboer of Groningen University with the request of collaboration in a radiocarbon-project. One year later, the first calibrated C^{14} dates of cattle bones - so of bred animals with a relatively short life span - that had been found in the earliest layers of the Carthaginian settlement below the *Decumanus Maximus* (cf. *fig. 1*), yielded rather homogeneously calibrated (absolute) dates of just before 800 BC.[16] These highly suggestive dates posed some difficulties, since two of the five samples came from archaeologically problematic contexts. For that reason, the new bilateral excavation project of the INP and Ghent University has contributed two more series of bone samples for radiocarbon dating. The first series has in the meantime been analysed and seems to confirm the early dates of the Hamburg excavation. The second series, stemming from a deep pit to the southwest of the bastion of Trench 4 (infra), is even more promising, since here direct links could be made between the bone material and Greek Geometric pottery fragments within the same contexts.

3.1 Defensive system

F. Chelbi, R.F. Docter & B. Maraoui Telmini

In the first preliminary report for *BABesch*, the find of a double wall with transversal reinforcements in Trench 8 has been presented.[17] This is in all likelihood the southern (casemate-) city wall of Carthage in the Archaic period, measuring at least 3.36 m in width. It is clear that this type of city wall is inspired by building techniques from the Levant.[18]

In the spring campaign of 2002 it had been observed on the northern face of BM02/8271 (so on the city side) that this double wall had been founded on the virgin soil, and so probably dated to the 8th century BC (*fig. 2*; cf. *fig. 4*). New excavations within the compartments of this city wall in the summer campaign of 2003 have shed more light on its construction date. It could be shown that the city wall was not the first construction on the site. Two or three walls of a building, dated to the second half of the 8th and probably the first half of the 7th century BC had also been founded directly on top of the virgin soil, but were clearly overbuilt by the city wall (infra). Four different phases could be distinguished in the architectural remains and floor levels preceding the construction of the city wall. It became clear that in this period, this particular spot must still have been part of a 'normal' domestic area, although probably lying at the fringes of the inhabitated city. It is now clear, too, that the city wall was built at the same time in which the area to the south (partly used as necropolis) was reshaped into a large industrial zone (see also infra). This zone had been mainly used for the large scale working of iron, as in situ finds from Trenches 1, 7, 3, 5 and 8 show (cf. *fig. 1*). These

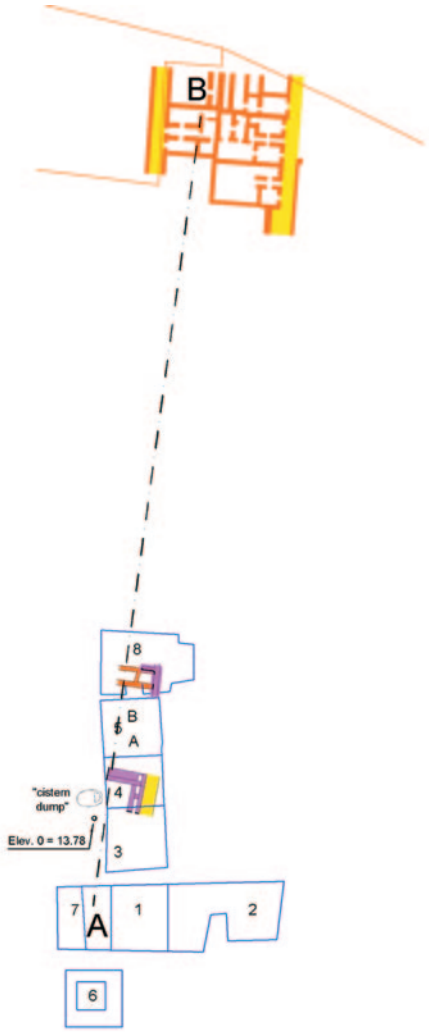


Fig. 2. Casemate city wall foundation in Trench 8, small portion of northern face (BM02/8271), founded on the dark brown virgin soil, visible in the foreground, with two torba floors cut by the city wall (photo UGent/INP).

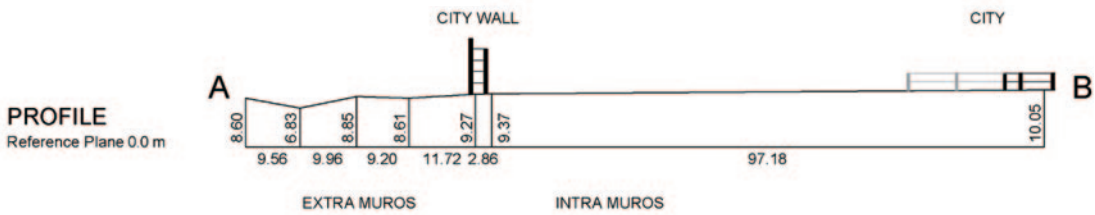


Fig. 3. Bir Massouda site (AutoCAD version prepared by D. Van Damme, 2005). North-south section through the site based on the elevations above sea level of the bedrock and virgin soil. On top of it, the residential area in the north and the city wall of Trench 8 have been reconstructed (about the middle of the 7th century BC).

metallurgical installations had also been found inside the compartments of the casemate city wall of Trench 8, but up to now were considered to be secondary usages of the defensive structures. Now that the casemate structure proves to be clearly contemporary with the iron working, we even had to (re-)consider the possibility whether these new constructions could not just be plain housings for these metallurgical installations, without necessarily being a city wall structure at the same time. However, here are at least three good arguments that favour the casemate city wall interpretation. In the first place, the typological parallels in the East and the West as well as in Carthage for

strong double walls with intermediate reinforcements would argue for a city wall. In the second place, the fact that the two strong parallel walls, which are stronger than the ones regularly encountered in housing areas (as in the Hamburg excavation area, cf. *fig. 1*), are founded till the virgin soil is significant. They must have been intended to bear a considerable superstructure. Only the transversal wall (*fig. 4*), which is built at the same time and binds in with the two other walls, is founded just below the contemporary ground level. In the third place, also the fact that the two paralllel walls cut though the stratigraphy below, without respecting earlier house and wall boundaries is very unlike the customary way of Carthaginian city development, as attested in the Hamburg excavation area. We are clearly dealing with a major restructuring operation, probably issued by a central authority.

The construction date of the Archaic city wall is tentatively equated with the building phase of 'layer IIIa' (post ca 675 BC) or 'layer IVa' (post ca 645 BC) in the Hamburg excavation (see *fig. 1*). The sequence of constructions with their respective torba floors of crushed limestone preceding the city wall finds a good parallel in the excavations of F. Rakob in the Ibn Chabâat site (cf. *fig. 1*). Here, a (semi-)circular mud-brick construction with surrounding torba floor had been overbuilt by the Archaic city wall too.[19]

The different levels of the virgin soil or bedrock encountered in the series of trenches on the site, show that the highest point of the Bir Massouda site would have been situated exactly on this point, in Trench 8, at the moment the first colonists settled here (*fig. 3*; cf. *fig. 2* foreground).[20] Especially the new excavations in Trench 3 show that here the level dropped considerably, forming a sort of gully between Trenches 1/7 and 8. It is hardly surprising, then, that the Carthaginians choose exactly this point of the eastern Byrsa Hill as the strategically most favourable place to build their southern city wall. The buildings that existed on this spot before had to be demolished in the course of the construction of the city wall viz. were partly left incorporated in the foundations of the new casemate wall.

Excavation and architecture

E. Deweirdt, L. Verdonck & B. Maraoui Telmini

In the excavation campaign of 2003, the interior of the southern casemate-city wall (BM02/8230+8271), running east-west, could be investigated till the virgin soil (*fig. 4*).[21] Excavation proceeded in

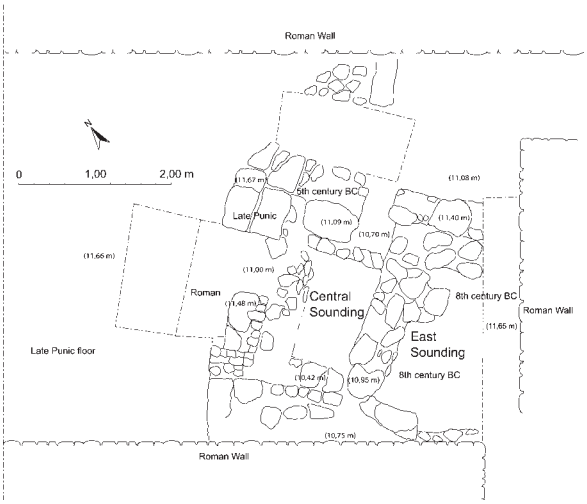


Fig. 4. Trench 8: plan of western sector in 2003; central and east soundings within casemate city wall (drawing E. Deweirdt & L. Verdonck).

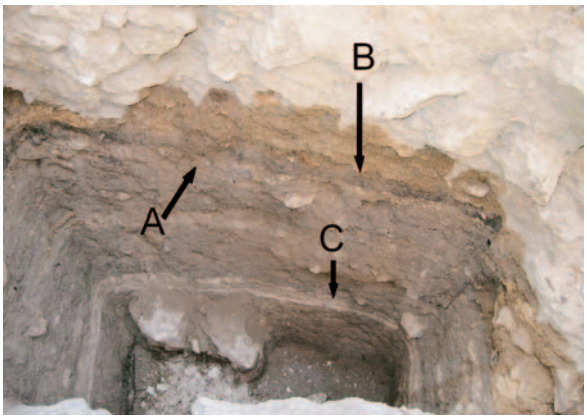


Fig. 5. Trench 8, east sounding: west section and part of north and south sections showing stratigraphy within casemate city wall. A) torba floor, covered by B) a dark levelling layer BM03/8305, C) sequence of three torba floors (cf. fig. 9A) (photo UGent/INP).

two sectors, on either side of the transversal wall BM00/8032+BM02/8209, termed 'east sounding' and 'central sounding' respectively. The following rather detailed description is presented in this preliminary report not only to document the different phases of the structure(s) preceding the city wall, but also as an illuminating example of the difficulties encountered when excavating in a multi-period site like Carthage. At some 4.0 to 5.5 m below the present surface, the spaces left for excavating are extremely limited, cramped between walls of different epochs.

Fig. 6. Trench 8, east sounding: east section showing stratigraphy within casemate city wall. Fill (arrow) in robber trench on Archaic east-west wall (photo UGent/INP).

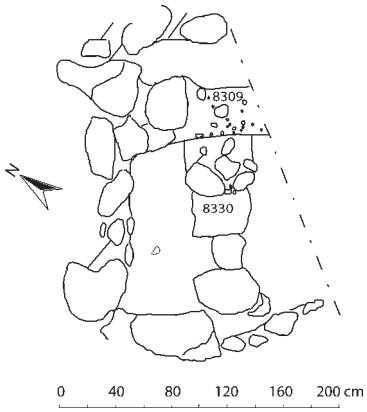


Fig. 7. Trench 8, east sounding: plan of architecture below casemate city wall. Two intersecting walls BM03/8309 and BM03/8330 (drawing E. Deweirdt & L. Verdonck).

Fig. 8. Trench 8, east sounding: two intersecting walls BM03/8309 and BM03/8330 below casemate city wall (photo UGent/INP).

Fig. 9. Trench 8, central sounding, south and west sections. A) sequence of three torba floors (cf. fig. 5C), B) wall structure of east-west wall (photo UGent/INP).

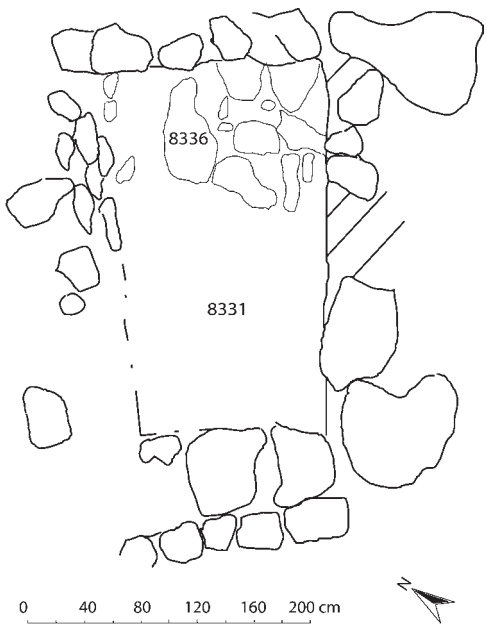


Fig. 10. Trench 8, central sounding: plan of east-west wall or treshold or pavement BM03/8336 (drawing E. Deweirdt & L. Verdonck).

Fig. 11. Remains of 8th century BC cremation necropolis: pozzi cut into the bedrock of Trench 7, viewed from the north (photo UGent/INP).

The east sounding yielded the remains of a white torba floor at a level of 10.07 m above sea level, which is clearly visible in the section (BM03/8305; *fig. 5 A*), lying on top of a light grey preparation layer, and covered by a dark levelling layer (BM03/8305a; *fig.* 5 *B*). At a level of about 10.02 m above sea level in the northern part of the east sounding, a structure appeared, consisting of few large stones set in light grey mortar with calcareous inclusions (BM03/8309; *fig. 7*). This structure may be connected with a greyish fill of an almost vertical robber trench in the east section, which

has exactly the same width and cuts through several later layers from a level of at least 11.22 m (indicated with an arrow in *fig. 6*). This shows that the east-west wall BM03/8309 must have existed for quite some time. It is very likely that the walls had just been topped off at the time the casemate wall was built in its place. Over the topped off structures and levelled terrain, a thick sterile compact yellowish clayish layer (BM02/8227 and BM02/8245) was spread out on the walked surface level, preparing the terrain for its new metallurgical function.[22] The transversal wall BM00/8032+BM02/8209 clearly sits on top of and embedded in this layer (*fig. 5*, above B). The spaces within this city wall must have been open and accessible, used for iron forging.

Further excavation of the east sounding brought to light a north-south running wall, consisting of heavy stones (BM03/8330; *figs. 7-8*). A difference in colour could be observed between wall BM03/8330 and BM03/8309. Given the lower level of its foundation, the former is probably the earlier one, perhaps originally continuing farther to the north. Unfortunately, BM03/8309 could not be investigated further, due to the extremely limited space in the sounding. To either side of wall BM03/8330 a levelling layer rich in phosphates, charcoal and ash was found (BM03/8317+8319). This layer has preliminarily been dated in the finds' laboratory to the 8th century BC.

Below this layer BM03/8317+8319, a sequence of three white torba floors was encountered at an elevation of about 9.60 m, which is paralleled in the central sounding, west of the transversal wall BM00/8032+BM02/8209, at a level of about 9.65 m (*figs. 5 C, 8* and *9 A*). These torba floors have been dated, on the basis of a first analysis of the finds in the filling layers in-between the torbas, to the second half of the 8th and the 7th centuries BC.[23] In the central sounding, the lowest of the three torba floors covered a structure (?) (BM03/8336), consisting of one single layer of stones (*fig. 10*). It remains unclear whether these stones have been part of a stone pavement or are just the lowest part of an east-west wall that is still visible in the west section of this central sounding in the shape of a robber trench fill (*fig. 9 B*). The latter interpretation would imply that structure BM03/8336 has been broken out till its present level before the torba floors were laid out. Alternatively, it may have been a threshold in that east-west wall, over which torba floors had been laid out in three subsequent renovations. In this connection, the finds from the northern sounding of the year 2002 (*fig. 4*) are of interest. Here, a thick torba floor BM02/8252 has been found at almost exactly the same level (elevation 9.62 m in the east and 9.69 m in the west). This is most likely the northern continuation of this architectural assemblage, viz. the floor in a room north of the east-west structures BM03/8336 with western extension (?) in the central sounding and wall BM03/8309 in the east sounding (*figs. 6*-arrow, *7* and *9 B*). In fig. 2 it is clearly visible that the city wall BM02/8271 cuts the white torba floors, of which BM02/8252 is the lowest one. Moreover, it is also visible that the outer surface of the wall was apparently not meant to be seen, but served as a foundation, covered in greasy yellowish clay mortar (*fig. 2*). In a very small portion in the east sounding, west of wall BM03/8330, and below the sequence of torba floors, the remains of yet another east-west wall have been documented (BM03/8366a), running parallel to and being contemporary with BM03/8336.

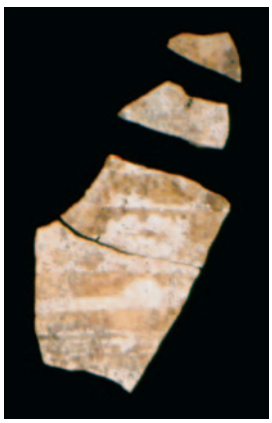
The internal relations of the east-west structures discussed above, however, pose some problems. Although wall BM03/8309 lies exactly in the axis of structure BM03/8336 and the east-west one visible in the robber trench fill in the central sounding (*fig. 9 B*), the former is probably only founded at 9.97 m above sea level, whereas structure BM03/8336 is founded some 40 cm lower at 9.57 m above sea level. It seems, therefore, at first sight improbable that these structures have once belonged together. However, it is not to be excluded that they are different phases or renovations of the same structure.

In conclusion, one may distinguish up to four Archaic phases in the period before the casemate city wall was rigorously put in place (from earliest to most recent): 1) the two parallel east-west walls/structures BM03/8336 and BM03/8366a), 2) the three torba floors in the east-, central, and northern soundings, 3) north-south wall BM03/8330, and 4) east-west wall BM03/8309.

3.2 Earliest necropolis of Carthage

F. Chelbi, R.F. Docter & B. Maraoui Telmini

In the first preliminary report, the important find of a cremation necropolis of the first generation Carthaginians has been presented.[24] The new campaigns have yielded additional information helping in reconstructing this funeral zone. The necropolis had been discovered in the united trenches 1 and 7 by a Tunisian team of the INP Conservation du Site de Carthage during the winter campaign of January 2003 and consisted of nine shallow *pozzi*, cut into the soft limestone bedrock (*fig. 11*). They are interpreted as the lowest parts



cm

Fig. 12. Painted ostrich egg fragments BM02/32227 from context BM02/8239 (photo UGent/INP).

Fig. 13. Human cranium fragment from context BM03/3338 in situ (photo UGent/INP).

of cremation pits, which had been dug from an originally higher level within the dark brown, very compact virgin soil (which has now disappeared; cf. fig. 2 foreground) and the underlying limestone bedrock. One is very much tempted to draw a parallel with the contemporary (i.e. earliest) tophet burials that also cut through an original dark brown virgin soil till just into the bedrock.[25]

The analysis of the pottery fragments in the fills of these *pozzi* showed that the original funerary fills must have been cleared out already in Antiquity, probably around the middle of the 7th century BC and most likely in relation with the installation of the metallurgical workshops in the area.[26] In all trenches on the Bir Massouda site we found fragments of typical funerary pottery (oinochoai, mushroom jugs and 'table amphorae'/cremation urns) in remarkably high numbers, dating to the very earliest phase of Carthage.[27] Also typical funerary objects as painted ostrich eggs have been attested with some fragments in the same contexts (*fig. 12*).[28] All these are clear signs of the disturbance of an early necropolis in this southern *extra muros* zone of Carthage. It has been suggested from the start that this 'disturbance' was in fact a deliberate and carefully planned enterprise by people who still felt some emotional affiliation with their ancestors buried in this part of the city. That this procedure is not without parallel in Punic Carthage, is now proved by a similar find in the Swedish excavations on the north slope of the Byrsa Hill. Here, an inhumation grave (originally with sarcophagus) of the Middle Punic period, probably of the second half of the 4th or beginning of the 3rd century BC had been cleared out at the beginning of the 2nd century BC prior to the final urbanisation of this part of the city.[29] The differences with the French excavations on the southern slopes of the Byrsa Hill are clear. There, an Archaic necropolis of the 7th and 6th centuries BC gave way to a metallurgical zone after the middle or even late in the 4th century BC,[30] and only still later, at the end of the 3rd or early in the 2nd century to a residential quarter ('Quartier Hannibal'). Apparently, at that time, these Archaic graves had not been visible anymore and so the Carthaginians felt no obligations to piously exhume the dead, as they would otherwise probably have done.

One of the main concerns after the discovery of the *pozzi* early in 2003 had been the lack of unambiguous indications of human remains. In itself this could be a sign of the fact that the Carthaginians who exhumed their dead in the middle of the 7th century BC had done a good job, but it did not seem quite in accordance with the fact that so many fragments of funerary pottery were found. The analysis of the animal bone material of the campaigns 2002 and 2003 by A. Alen, however, showed that some human skeletal remains had been included in the sample. S. Roudesli Chebbi has in the meantime studied these remains (infra), showing that without exception one is dealing with fragments of human crania (*fig. 13*). This anomalous situation asks for an explanation. Another striking fact is that these fragments, with the exception of two, have been found in contexts that contain almost exclusively finds of the earliest occupation phase of Carthage, conventionally dated to the second half of the 8th and first quarter of the 7th centuries BC (but see also above on possibly earlier dates). It is not insignificant in this respect that exactly these contexts also contained pottery fragments with clear funerary connotations. These contexts were, however, never found in the stratigraphical position that would correspond to the typological date of the finds included in them; they are consequently in secondary position.

So, in 2003 we found human bone material and, again, funerary pottery in secondary position, but no single trace of new in situ burials nor of further cleared out cremation pits. In the 3 large trenches excavated between the earlier Trench 1/7 and Trench 8 (Trenches 3, 4 and 5; *fig. 1*), only the dark brown virgin soil and partly the bedrock was reached. In Trench 3, which is closest to Trench 1/7, this dark brown soil lay in a 30-45 cm layer on top of the limestone bedrock, that is to say at an elevation of 6.83-6.86 m above sea level. The conclusion has to be drawn that the rest of the earliest necropolis is not to be found here, but probably south of Trench 1/7 (and perhaps east and west of it).

In the campaign of 2003, we were also faced with another unexpected element in the archaeological documentation. Where we had hoped or expected to find only or at least some traces of cremated human remains among the bone material, hinting at cremation burials, the bone fragments were with one exception (from BM03/5321, infra) clearly not burnt, and may, therefore, probably have belonged to inhumations. This is a remarkable fact, since cremation is generally considered to be the oldest rite of the two, originating in the Levant and occurring for example in the Junon necropolis (admittedly next to inhumations).[31] The pozzi and necropolis material in secondary position on the Bir Massouda terrain would clearly hint at an early date, still in the 8th century BC. In the French excavations on the south slope of the Byrsa Hill, the two burial rites are found next to each other in the 7th and 6th centuries BC.[32]

One last question to be answered is: why have only skull fragments been found? The most likely explanation is that the persons who exhumed the bones have been proceeding extremely carefully, but that they only missed those bone fragments that could easily be confounded with pottery fragments in the humid soil, like for example skull fragments (*fig. 13*).[33]

It is a remarkable fact that also in the contemporary Phoenician settlement of La Fonteta near Alicante (Spain) an almost identical pattern could be documented: extra muros shallow pits (*pozzi*) in the virgin soil, only one of which containing a cremation without pottery (La Fonteta phase I).[34] Apart from that, reworked necropolis material (in this case stelae) has been found, as well as (exclusively) fragments of human skulls in La Fonteta phase III.[35] The likeness is even closer than that, since also in La Fonteta, the assumed necropolis gave way to a metallurgical zone around the city walls.

Human skeletal remains

S. Roudesli Chebbi

Human remains have been encountered in several contexts, in which four groups may be distinguished. The first group consists of BM02/7239, a red brown sandy levelling layer (material Archaic), BM02/7299, a dark brown fill, partly below BM02/7239 (material Archaic), and BM02/7302, with finds of the 8th century BC. This greyish sandy layer is probably identical with BM02/7299. The second group consists of BM03/3336, BM03/3337, BM03/3338 (in situ; *fig. 13*), and BM03/3339, all with finds of the 8th century BC. The third and fourth groups consist of one fragment each. BM03/5321 (female chin bone) shows traces of cremation. This fragment was found in secondary position within a temporary retaining wall built in an early Roman ('Augustan') robber trench. It may either have belonged to the Archaic necropolis, or to one of the victims of the 146 BC fire catastrophe. BM04/4400 (BM04/38417), a cheek bone fragment, was found, while cleaning the west section in the northern part of Trench 4. The material included dated to the Archaic till Late Punic or early Roman ('Augustan') period, but has to be considered as disturbed. As with the last human skull fragment, it may either have belonged to the Archaic necropolis, or to one of the victims of the 146 BC fire catastrophe. The presence of molar M3 shows that the cheek bone fragment had been of a young adult of over 18 years old; in fact, the M3 has been fully erupted, but on the other hand does not show any signs of wear.[36] One may conclude that the fact that the fragments belong, without exception, to skulls of adult individuals, is extremely unusual.

4 RESULTS: MIDDLE PUNIC PERIOD

4.1 Defensive system

F. Chelbi, R.F. Docter & B. Maraoui Telmini

The excavations of the year 2003 in the eastern extension of Trench 8 showed that the southern city wall of the Archaic period, described above, apparently did not continue towards the east (*fig. 1*). Instead, it could be shown that it joined up with a north-south running tract of the city wall. The exact date of this tract could not be established, but further excavations in the southern Trenches 3 and 4 in the years 2003 and 2004 (and perhaps also the earlier documention in Trench 1/7) gave evidence of similar portions of this north-south city wall, lying more or less in the

same orientation, that may be dated to the Middle Punic period (*fig. 1*). Especially the investigations in Trench 4 yielded a clear proof of the existence of a double-faced wall of the casemate type, with intermediate reinforcements, dating probably not before the (late) 5th century BC (*fig. 14*). It is clearly smaller than the city wall in Trench 8, having an overall width of 2.20 m. The construction of this city wall has been characterised by a reinforcing buttress to its eastern face (i.e. towards its exterior). Moreover, it seems to have been bordered at its eastern side by a road running parallel to it. The limited size of the excavations, however, did not allow further investigations into questions of date and width of this street. The most important feature encountered in connection with this city wall in Trench 4 was the find of a series of very strong foundations, most likely marking the position of a tower or a bastion in the city wall (*fig. 15*).[37]

That older city walls became incorporated in the urban tissue as the city developed and still retained some sort of defensive function is not uncommon in Antiquity. A good example has been found in Hazor, where a 10th-century BC city wall became an internal one after the expansion of the city in the 9th century BC.[38] In the case of the present assemblage of city walls in Carthage, one may hint at the fact that the preliminary date of the portion found in Trench 4, (late) 5th century BC, corresponds well with the late 5th-century BC urbanisation of the area. On the other hand, the fact that there are indications of Archaic predecessors for the wall and bastion in Trench 4, may just imply a late 5th-century BC renovation of these constructions. Also the city wall in Trench 8 seems to have undergone some restructuring in the 5th century BC, with at least the northern wall BM02/8271 (cf. fig. 4) getting a new and even stronger superstructure.

Excavation and architecture

S. Garsallah, J. Mabrouk, J. Van Kerckhove & T. De Schacht

In Trench 4 a structure came to light during the 2004 campaign that clearly belongs to a defensive system of double walls with intermediate reinforcements (*fig. 14*). In fact, already in 2003 remains of a very strong east-west wall had been documented (feature BM03/4345; *fig. 15*), which has been built with large irregular ashlar blocks of greyish yellow colour bound in a clay mortar.[39] The foundations of that wall reached till the virgin soil, so it was presumed that we were dealing with a portion of an Archaic wall. Its position, south of the city wall found in 2002 (*figs. 1, 4*), however, remained somewhat puzzling. In 2004, the excavation in Trench 4 was enlarged towards the south in order to get a better picture of the structures that may have been in relation to this large wall.

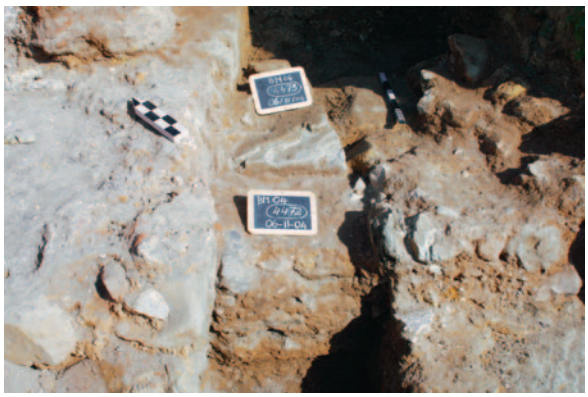


Fig. 14. North-south casemate city wall in Trench 4 (photo UGent/INP).

Fig. 15. East-west part of bastion with large stones, BM03/4318+4345 (photo UGent/INP).

Fig. 16. Middle-Late Punic septic pit in Trench 4, BM03/4340 (photo UGent/INP).

Fig. 17. Middle Punic septic pit in Trench 7, BM04/7457 (photo UGent/INP).

Two parallel walls were found, running north-south, with a short intermediate wall (*fig. 14*). This set of walls (BM04/4428 in the east and BM04/4406 in the west) has also been constructed with large stones of greyish yellow colour, and had also

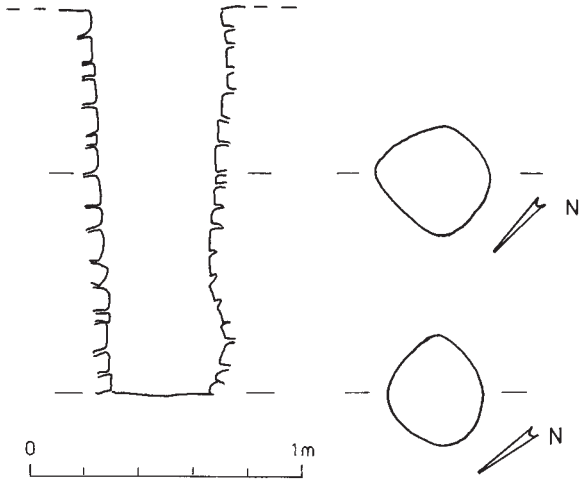


Fig. 18. Middle Punic septic pit in Trench 7, BM04/7457, section (drawing B. Maraoui Telmini, inked by J. Angenon).

been bound by clayish mortar. The stones are smaller than those of BM03/4345. At its northern end, wall BM04/4406 turns towards the west, joining up with the portion of the Archaic wall found in the 2003 campaign (BM03/4345; *fig. 15*). The latter wall may belong to a tower or bastion-like structure (BM04/4474) and measures 1.20 m in width. Hence, the total width of the east-west structure is 2.0 m. It is likely that we are dealing with a part of the Carthaginian north-south city wall and one of its bastions (BM04/ 4474).

During a short campaign in November 2004 (supra), we excavated the stratigraphy next to the western face of wall BM04/4406 in order to establish the precise date of its construction and, at the same time, to establish its connection with the Archaic east-west wall BM03/4345. The excavation was also enlarged in order to obtain a better picture of the double wall, partly by demolishing the overlying Roman foundation walls (after full documentation). This resulted in the discovery of two more transversal walls in the double wall (BM04/4472 and BM04/4473; *fig. 14*). The distances between the transversal walls, from south to north are 1.50 and 1.20 m, respectively. The stratigraphy in this last campaign started from a Late Punic terrazzo pavement (context BM04/4466) that had traces of burning, probably of the fire of 146 BC. Below its compact white to yellow preparation layer (context BM04/4468), two greyish filling layers with clay parts were excavated (BM04/4470 and BM04/4475). The layer below these filling layers is composed of a sandy levelling layer of yellowish colour containing small rock frag-

Fig. 19. Middle Punic basin BM04/7441 to the right; fill with destruction material BM04/7442 to the left; and bench-like structure BM04/7445 in the center (photo UGent/INP).

Fig. 20. Middle Punic basin BM04/7441 with south wall (photo UGent/INP).

ments (BM04/4479). Its upper part is situated at an elevation of 10.19 m above sea level. A thin layer of yellowish stone fragments and some ash and charcoal (BM04/4481) has been found in the southern part adjacent to the wall. The layer below it (BM04/4482) is composed of yellowish stone chips and has a thickness of 10 to 15 cm. This is clearly the level on which the stonemasons had been cutting the stones for the construction of the wall. The wall itself has been preserved to a height of about 1.50 m. The preliminary examination of the pottery in context BM04/4481 suggests a dating not before the 5th century BC.[40] Below context BM04/4482, a levelling layer was found that is extremely rich in Archaic pottery. This levelling layer is composed of several separate layers of different composition and colour (dark brown, grey and even black) and has been excavated till the virgin soil/bed rock (found at an elevation of 8.85 m), on which the wall has been founded.[41] On the other hand, it is also possible that the Middle Punic city wall used an Archaic wall (predecessor?) as foundation.[42] In this connection, it is perhaps not insignificant that exactly at the level on which the stones had been worked (context BM04/4482), the wall slightly projects towards the west and, moreover, becomes more irregular in its outer appearance. The technical characteristics of stones and mortar in the lower part of the wall (below level BM04/4482), probably being its foundation, are identical to those of the Archaic wall portion found in the 2003 campaign in the northern part of Trench 4 (BM03/4345).

4.2 Septic pits

F. Chelbi, R.F. Docter, B. Maraoui Telmini

On the Bir Massouda site two pits were found, which may be interpreted as septic pits, toilets/latrines or waste collection pits. Both had been carefully constructed with stones: BM03/4340 in Trench 4 and BM04/7457 in Trench 7 (*figs. 16-18*). They belong to the Middle and Late Punic periods. In the present preliminary report, only the one found in Trench 7 will be discussed in full, in combination with its contents (BM04/7453; *figs. 17-18*).[43] The septic pit is more or less cylindrical and its approximate capacity can, therefore, be calculated; it may have contained some 0.18 cubic metres.

Excavation and architecture

B. Maraoui Telmini & K. Ryckbosch

Context BM04/7453 is the fill of a small built pit of about 35 cm diameter (context BM04/7457), which is framed in its upper part by stone masonry of large and medium-sized rubble set in a sand and clay mortar (*figs. 17-18*). It has a depth of about 1.35 m (*fig. 18*). The base of the pit is situated at 9.06 m above sea level. The fill itself (BM04/7453) consists of rather loose sand of greyish colour with many small stones, bone and pottery fragments. As it became clear that the context consisted of an undisturbed and sealed deposit of a septic pit, it was decided to have the whole fill systematically sieved (on the procedure, infra).[44] The finds within the deposit contained many rather large pottery fragments and, moreover, three almost completely preserved vessels. At a depth of about 15 cm from the base of the pit, an almost intact casserole was found in upright position (Cat. 30, *figs. 24c, 32*). Higher in the fill, an Attic squat lekythos was found (Cat. 3, *figs. 24b, 30*) as

well as a Punic one-handled juglet (Cat. 24, *figs. 25f, 31*). All these finds may have belonged to the last use of pit BM04/7457 as a septic pit.

Context BM04/7457 is situated in the eastern part of a basin-like structure of Middle Punic date (context BM04/7441). The floor and the south wall of this structure have been preserved rather well, the latter till a height of about 60 cm, and both consist of the same material, a greyish hydraulic (watertight) mortar (*figs. 19-20*). Where the pit BM04/7457 has been constructed, in the east, the floor of the basin has been cut away (or ended) neatly, which would at first sight lead to the conclusion that the septic pit is a later addition to this ensemble. However, it is clear from the stratigraphy below that it must have been constructed in an earlier phase, since a preceding burnt torba floor (BM04/7454, *fig. 21*, infra) already takes account of its existence.

Upon excavation, a series of layers has been encountered above the greyish mortar floor, clearly in connection with the abandonment of this ensemble. The topmost layer of this series (context BM04/7442) contained fragments of greyish hydraulic mortar, probably originating in the partial destruction of the south wall of the basin (*fig. 19*, cf. *fig. 20*). Below this layer, a light brown sandy layer (context BM04/7443) appeared in the southeast corner of the basin, where the basin's floor BM04/7441 has not been preserved. It is in all likelihood composed of infiltrated sand. Partly below this context (BM04/7443) was still another very thin layer of loose sand (context BM04/7450), that equally delimits the placement of the septic pit (BM04/7457). The material of contexts BM04/7442, 7443 and 7450 seems to be rather homogeneous, being essentially composed of Punic Plain Ware pottery and numerous fragments of Attic pottery; the complete absence of Campanian Black Glaze Ware should be noted as a chronological indicator for the abandonment of this installation.

Upon excavation of the thin sand layer BM04/7450, we encountered the rubble masonry of the construction of the septic pit. Its upper part is situated at the same level as the preparation layer of the basin's floor (BM04/7441). The preparation layer itself, context BM04/7452, is composed of large and medium-sized stones set in a thin clay bed. The latter context was found to be very greasy towards the eastern part of the basin, where it touched the border of the septic pit's construction. Just below the preparation layer BM04/7452 and only in the eastern part of the basin, a rather compact layer appeared, which is

Fig. 21. Middle Punic torba floor of first phase BM04/7454; in the back, the section through the second basin's floor BM04/7441 is visible (photo UGent/INP).

a sort of burnt torba floor of 4 cm thickness, badly preserved and black in places. This floor (BM04/7454) is best preserved in the southeastern part of the basin and bounds in a certain way the septic pit's masonry to the west (*fig. 21*). Below this context, the first (Late) Archaic contexts were encountered that are connected with the levels of the metal working quarters in the area.

On the basis of this stratigraphical sequence, the ensemble of contexts (features and layers) belonging to the basin and the septic pit may clearly be attributed to the first restructuring measures in the area, viz. the installation of a Punic residential quarter in the last quarter of the 5th century BC.[45] The existence of two floors, one on top of the other, in the eastern part of the basin seems to show the existence of at least two use phases of this domestic installation.[46] In fact, the lower torba floor (BM04/7454) seems to be at the same level as the border of the septic pit and may, therefore, be contemporary. A robber trench over the torba floor to the west suggests that in this first phase

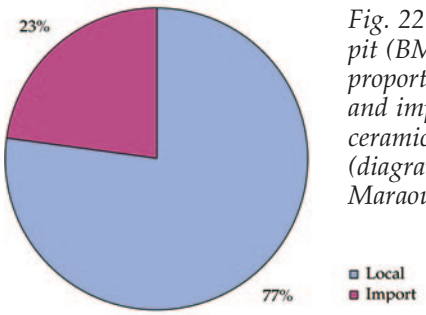


Fig. 22. Fill of septic pit (BM04/7453): proportions of local and imported ceramics; N=333 (diagram by B. Maraoui Telmini).

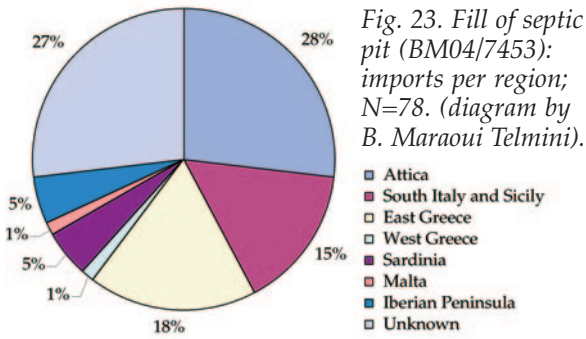


Fig. 23. Fill of septic pit (BM04/7453): imports per region; N=78. (diagram by B. Maraoui Telmini).

the space of the toilet perhaps had been more restricted, being no more than 1.10 m (north-south) by 1.70 m (east-west). The second pavement, the one of the basin (BM04/7441), which lies some 30 cm above the torba floor, also seems to be in perfect relation to the rubble masonry of the pit's border (*fig. 17*). The second use phase is connected with the installation of the spacious and more elaborately executed basin with hydraulic mortar on the floor and the wall (BM04/7441; *figs. 17, 19-20*). In the course of this renovation, one had laid out a new preparation layer, which necessitated at the same time raising the border of the septic pit. The renovation of the masonry of the septic pit's border may be connected with this second phase since it made use of the same type of stones as the preparation layer of the basins floor. To the north-east of the pit, a sort of drain has been documented, which probably served as an overflow of the pit. At the same time, this second phase testifies to an apparent raise in the standard of living in this residential quarter; the existing septic pit's area is now provided with a new large basin (with mortar walls and floor) and a washbasin that occupies the south side of the room, including an overflow hole through the ashlar to the east (*fig. 20*). This definitely is a costly layout, very much comparable to the installations known in Kerkouanne.

The contexts above the septic pit and on top of the basin's floor seem to be connected with the abandonment of this domestic ensemble (BM04/7442, 7443 and 7450; *fig. 19*). These three homogeneous contexts are sealed off by a levelling layer, which prepares the area for the installation of the new Late Punic quarter. This levelling layer BM04/7440 consists of a rather thick sandy layer of yellowish-orange colour, situated at 11.18 m above sea level. In the material found in this levelling layer a fragment of an Attic cup of the 5th or early 4th century BC may provide a *terminus post quem*. On the other hand, the absence of Campanian Black Glaze Ware may provide a *terminus ante quem*. Similarly, the pottery found in the fill of the septic's pit (BM04/7453) may provide a sound *terminus post quem* for the architectural change of the area, described above. One may reasonably assume that the septic pit had been cleaned and emptied regularly in the course of its ca 75 years of existence.[47] It is argued that the contents of the fill represent the last use of the pit as a toilet, which may be dated to the third quarter of the 4th century BC, viz. shortly after ca 340 BC.

The pottery contents[48]

B. Maraoui Telmini

Context BM04/7453 contains 257 fragments of local pottery, 76 fragments of imported pottery (*figs. 22-23*) and 10 fragments of construction debris (stucco and pavement).[49] The full contents of the context are discussed below in connection with a more detailed analysis of a large and representative selection of the finds: 36 pottery items (Cat. 1-36, *figs. 24-32*), 16 metal fragments (Cat. 37-52, *figs. 33a, 34*), and 2 glass objects (Cat. 53-54, *figs. 33b, 40*).

There are four categories that may be considered to be residual in the context:

- 32 pottery fragments, which are clearly 'water rolled' or eroded due to constantly running water. 22 Fragments (walls, rims and bases) belong to local transport amphorae and 10 to imported ones;
- 1 very small rim fragment of a Red Slip Ware plate;
- possibly also the 4 wall fragments of closed forms and 2 small rim fragments of plates (?) of Plain Ware pottery with smoothed surface (infra).

To the residual material one may also count 3 fragments of misfired pottery, which are probably remains of the earlier artisanal functions of the terrain (before the late 5th century BC). To these

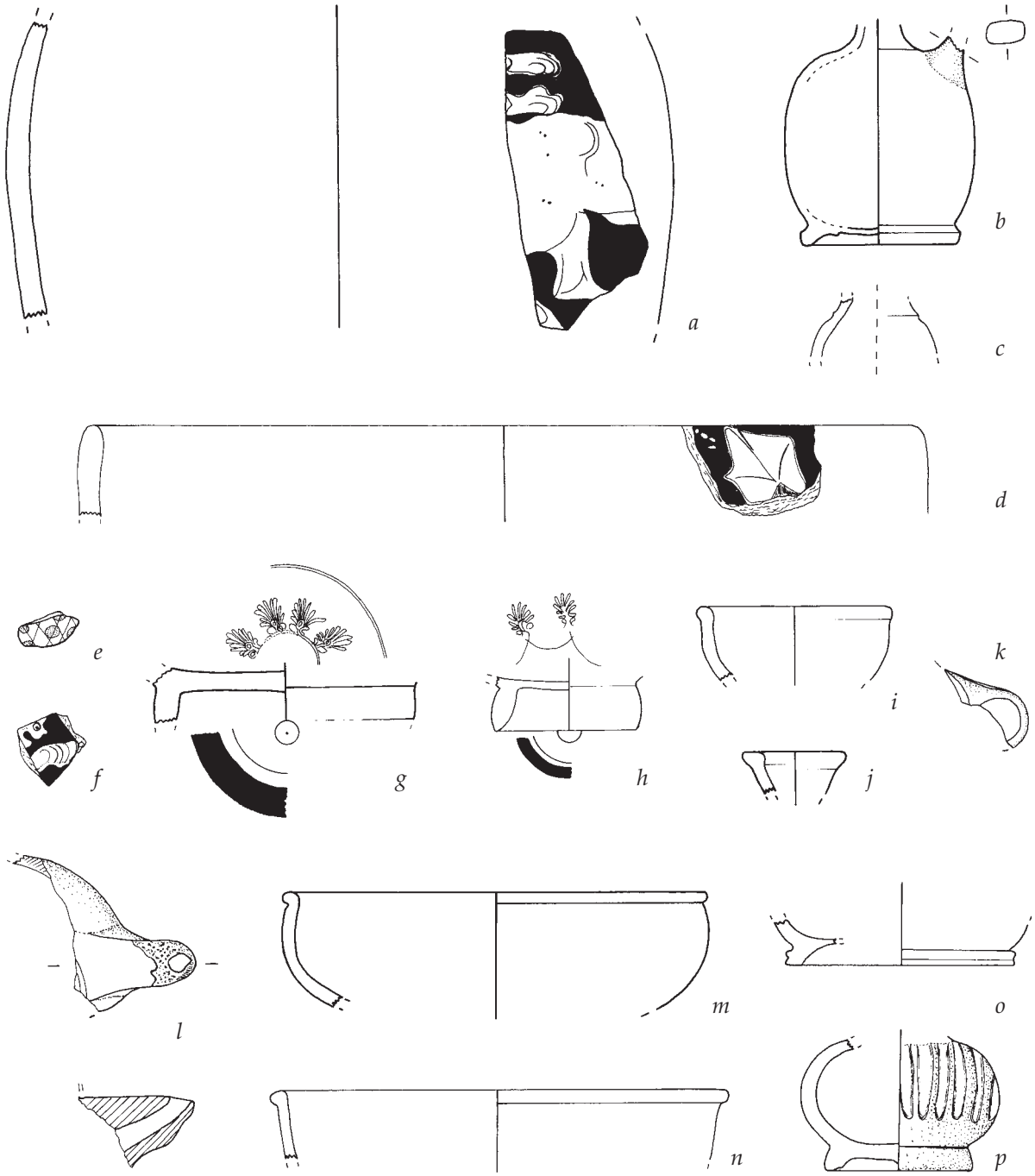


Fig. 24. Fill of septic pit (BM04/7453). Imported Greek pottery: a) Attic Red Figure skyphos Cat. 1, b) Attic Red Figure lekythos Cat. 3, c) Attic Red Figure (?) lekythos Cat. 4, d) Siciliote Red Figure skyphos Cat. 6, e) Attic net lekythos Cat. 2, f) Attic askos/guttus Cat. 5, g-h) Attic stamped Black Glaze bowls Cat. 9-10, i) Attic Black Glaze bowl Cat. 7, j) Attic miniature pyxis Cat. 8, k-l) Attic Black Glaze lamps Cat. 12-13, m-n) South Italian/Siciliote Black Glaze bowls Cat. 14-15, o) Attic Black Glaze oinochoe Cat. 11, p) Siciliote Black Glaze oinochoe Cat. 16 (drawings by B. Maraoui Telmini, M. Achour and R.F. Docter, inked by J. Angenon).

industrial residues one may also count the metal slag fragment and the crushed murex fragments (infra).

The rest of the assemblage shows the following composition.

Local pottery
- tabouna (household furnace) and handmade pottery: 14 fragments;[50]
- transport amphorae: 102 wall fragments, 5 handle fragments and one rim (Cat. 20, *fig. 25d*);
- Plain Ware pottery, mostly jugs and jars: 18 wall fragments, 2 handle fragments, 1 rim fragment of a trefoil-mouthed jug (Cat. 25, *fig. 25i*) and one almost complete juglet (Cat. 24, *figs. 25f, 31*); 1 small rim fragment of an unguentarium; 2 joining rim fragments of a small bowl (Cat. 28, *fig. 26a*) and 3 joining base fragments of the same shape (Cat. 29, *fig. 26b*); 2 joining rim fragments of a basin (Cat. 27, *fig. 26j*) and two bases of basins (Cat. 26, *fig. 26k*);[51] 12 fragments belong to filtre vases (fragments of different thicknesses with perforations);
- Painted Ware pottery: 5 wall fragments of jugs decorated with single or double wine-red or brown lines; 1 rim fragment of a jug with painted stripes on the lip (Cat. 22, *fig. 25h*); 1 rim fragment of a basin covered with red painted lines (Cat. 23, *fig. 25e*);
- Cooking Ware pottery: 29 wall fragments of cooking pots or casseroles, 4 base fragments (flat or slightly rounded), 3 horizontal handle fragments and 1 vertical handle fragment, 2 joining rim fragments of a cooking pot (Cat. 32, *fig. 26e*), 6 joining rim and wall fragments of one cooking pot (Cat. 31, *fig. 26d*), 3 joining rim fragments of a casserole (Cat. 33, *fig. 26g*), one near intact casserole (Cat. 30, *figs. 26c, 32*), 3 very damaged rim fragments of cooking pots; and 4 rim fragments of lids (Cat. 34-36, *fig. 26h,i,f*).

Imported pottery
- Attic Fine Ware: 5 Red Figure fragments (1 shoulder fragment of askos/guttus, Cat. 5, *figs. 24f, 28*, 1 wall fragment of large skyphos, Cat. 1, *figs. 24a, 27*, 1 wall fragment of a squat net lekythos, Cat. 2, *fig. 24e*, a squat lekythos, Cat. 3, *figs. 24b, 30*, and 1 shoulder fragment of small oinochoe, Cat. 4, *fig. 24c*); 16 Black Glaze Ware fragments (7 wall and 2 base fragments of open shapes Cat. 9-10, *fig. 24h,g*, 1 base of small oinochoe, Cat. 11, *fig. 24o*, 3 joining spout fragments and 1 spout of lamps, Cat. 12-13, *fig. 24k,l*, 1 rim fragment of small bowl, Cat. 7, *fig. 24i*, and 1 rim fragment of miniature pyxis, Cat. 8, *fig. 24j*);
- South-Italian and Siciliote Fine Wares: 1 Red Figure fragment (1 rim fragment of large skyphos, Cat. 6, *figs. 24d, 29*); 11 Black Glaze Ware fragments (5 wall fragments of open shapes, 1 base of a pyxis, Cat. 16, *fig. 24p*, 5 rim fragments of bowls, of which 4 belong to the type with 'outturned rim', Cat. 14-15, *fig. 24m, n*);
- East Greek Plain Ware: 1 base fragment of transport amphora from Samos (Cat. 19, *fig. 25b*), 10 wall fragments of the same transport amphora, 3 wall fragments of as much different transport amphorae;
- West Greek Plain Ware (Corfu or Butrint area): 1 rim fragment of transport amphora (Cat. 17, *fig. 25a*);
- Sardinian Painted and Plain Wares: 1 rim fragment of lid (Cat. 21, *fig. 25g*), 3 wall fragments of transport amphorae;
- Maltese Plain Ware: 1 rim fragment of transport amphora (Cat. 18, *fig. 25c*);
- Plain Ware from the Iberian Peninsula (probably Andalusia): 4 wall fragments of transport amphorae;[52]
- Plain Wares of unknown provenances: 11 wall fragments of transport amphorae.

BM04/7453 is a homogeneous Punic context, which is very rich in pottery, with a strong presence of imported wares (23% of all pottery fragments; *figs. 22-23*). The local pottery is functionally characterised by a domestic repertoire, which confirms the nature of the site's occupation at that time. At the same time, the rather large number of cooking vessels, casseroles, lids and filtre fragments shows that the pottery in the context originates in a kitchen area, probably to be located nearby.

From a chronological point of view, the datable pottery is generally consistent with a dating to the last quarter of the 5th till the end of the 4th century BC, although a closer date range for the formation of the context may be suggested: the decades around 350 BC, that is to say ca 360-340 BC. The dates of the material within the context are based on the fragments of imported pottery and on the local classes for which a reasonably precise chronology has been established. In fact, three or four of the eleven Attic fragments (especially the ring base fragments Cat. 9-10, *fig. 24g-h*) seem to date to the end of the 5th and the first quarter of the 4th century BC. This may perhaps be a sign of some more residual elements in the context, although the circulation of Attic pottery of

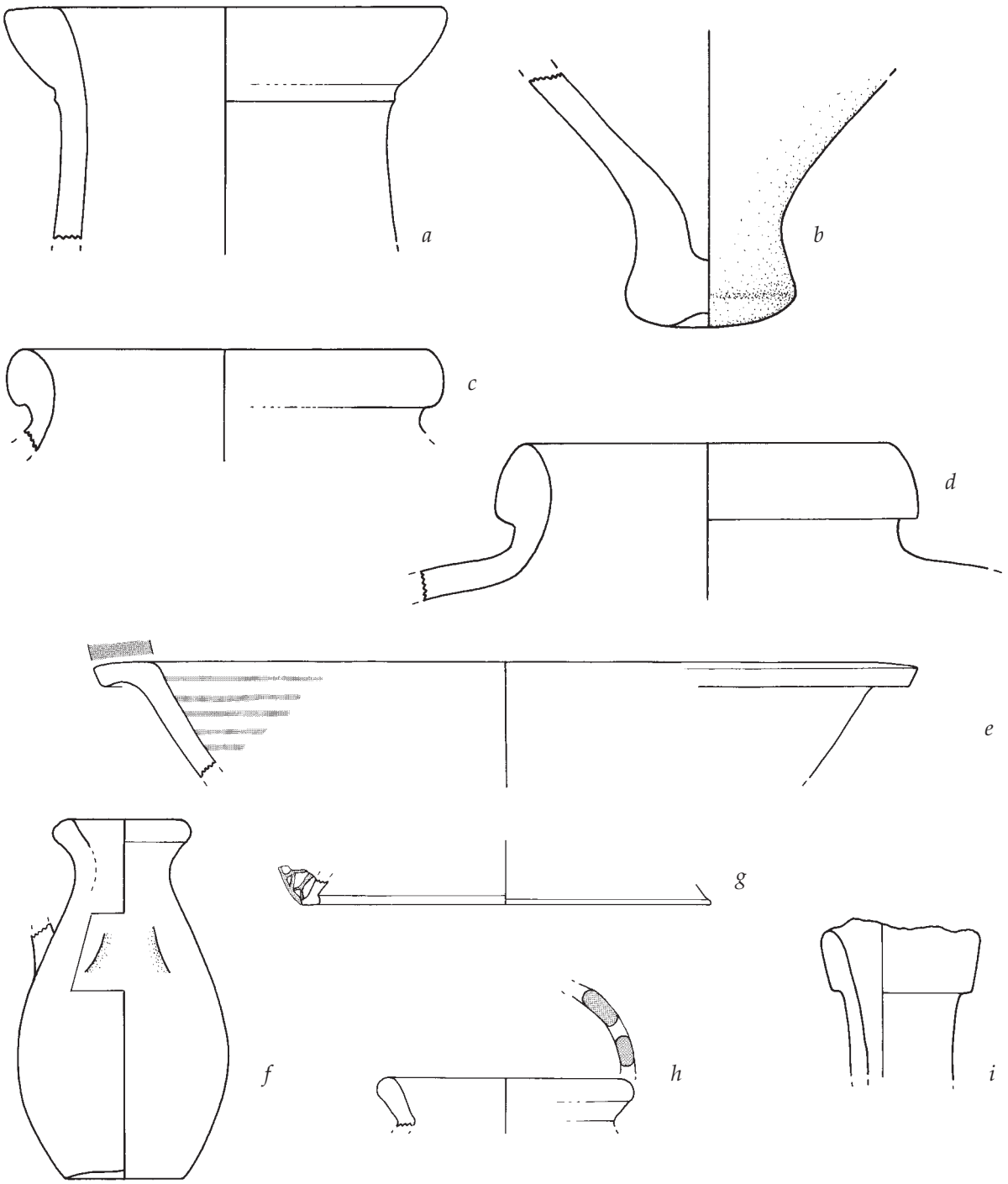


Fig. 25. Fill of septic pit (BM04/7453). Transport amphorae, Painted Ware and Plain Ware: a) Corfiote 'Corinthian B' type amphora Cat. 17, b) Samian amphora Cat. 19, c) Maltese amphora Cat. 18, d) local Punic amphora Cat. 20, e) local Painted Ware basin Cat. 23, f) local Plain Ware one-handled juglet Cat. 24, g) Sardinian (?) Painted Ware lid Cat. 21, h) local Painted Ware jug Cat. 22, i) Local Plain Ware trefoil-mouthed jug Cat. 25 (drawings by B. Maraoui Telmini, inked by J. Angenon).

this general time period in non-Athenian contexts is still a largely unexplored terrain (cf. also Cat. 7, infra). The presence among the local pottery of smoothed Plain Ware fragments is probably also a sign of some residuality. It has been established on the basis of stratigraphical pottery studies by the Hamburg excavation team, that this local production disappears during the last quarter of the 5th century BC at the latest.[53] On the other hand, one should notice the remarkable absence within the context of local Black Glaze Ware productions, which in contexts of the late 4th century BC tend to make up for larger proportions of the finds, and are regularly found in contexts of the 3rd century BC.[54] This allows proposing a date for the context, and so for the abandonment of the septic pit, that does not surpass the third quarter of the 4th century BC. Moreover, it seems that the abandonment of the domestic structures in this particular spot has not been caused by an accident. The fragmentation of the pottery, especially on top of the basin's floor suggests a planned abandonment.[55] The fact that the septic pit contained three near-complete vessels and few other larger profiles (reconstructed from various joining fragments) may be explained by the fact that these vessels had been thrown in the pit during the last use phase, perhaps accidentally as in the case of the complete casserole Cat. 30 (*figs. 26c, 32*).

The fairly high proportion of Attic imports in Carthage in the late 5th century BC and during the first half of the 4th, reflects the importance of the Carthaginian commerce. This commerce is even more significant considering the fact that these imports come from different areas of the ancient world, both from the East and the West and both from Greek and Punic areas. In fact, Carthage seems to be, as J.-P. Morel recently stressed: 'Une mégapole dont le cosmopolitisme se marquait entre autres par la diversité de ses importations céramiques.'[56] On the other hand, exactly the diversity and the richness of the Greek pottery repertoire reflect the strong impact that Greek culture must have had on Carthaginian civilisation. This tendency, which mainly concerns the 4th century BC, has already been noted for Carthage before,[57] but equally for other Punic centres such as Tharros, Cagliari and Olbia on Sardinia,[58] and Lilybaeum on Sicily.[59]

The close analysis of the date ranges of these imports allows for the formulation of some thoughts on the Carthaginian commercial relations with the exterior, especially with the Greek world in the period between the end of the 5th and the end of the 4th century BC (*fig. 23*). In fact, it is remarkable that a third of the Attic imports centred between the end of the 5th and the middle of the 4th century BC. On the other hand, the imports from Sicily and South Italy are mainly grouped in the second and third quarters of the 4th century BC. In the course of the second half of the 4th century BC, the South Italian and Siciliote productions enter the repertoire of Greek imports in Carthage, with a marked concentration in the last quarter of the 4th century BC. These observations confirm, in fact, the conclusions of Chelbi concerning the Black Glaze pottery from the Carthaginian necropoleis dating to the 5th and 4th centuries BC. In this connection he writes: 'Dans le 1er quart du IVème s., on assiste à un développement très important et très rapide des importations attiques qui connaissent leur apogée au cours du 2ème quart de ce siècle.'[60] On the other hand, he notices the appearance of Siciliote productions in the Carthaginian funerary repertoire of the second half of the 4th century BC, developping towards the last quarter or the end of that century.[61] The same observations have been put forward for the South Italian productions, of which the majority is found in Carthage in contexts dated towards the last quarter of the 4th century BC and the first quarter of the 3rd century BC.[62]

In conclusion, it should be stressed that the horizon of imported pottery in Carthage between the end of the 5th and the middle of the 4th century BC is characterised by the predominance of Attic pottery. This has long been underestimated,[63] imports from Magna Grecia being mentioned far more often. In a recent contribution, Morel even suggests a direct supply of Carthage with Attic pottery from Athens.[64]

ATTIC RED FIGURE

Cat. 1: BM04/40428, wall fragment of a large skyphos (figs. 24a, 27)

Clay reddish yellow (5 YR 6/6), black glaze on the interior, glaze on the exterior, black in the upper part, over-fired to red in the lower part. Representation of hind parts of large quadruped (deer, horse or cow) above which two horizontally placed forelegs of attacking feline. Surface heavily worn and encrusted. Max. diam. 19 cm; preserved H 8.8 cm.

The fragment belongs to a rather large skyphos for which no good comparisons can be proposed. The last quarter of the 5th and first half of the 4th-century Attic skyphos repertoire is rather limited in subject matter. Owls between olive sprigs are popular, mostly on small skyphoi. One of the other larger groups is that of the Fat Boy Group ('F.B.

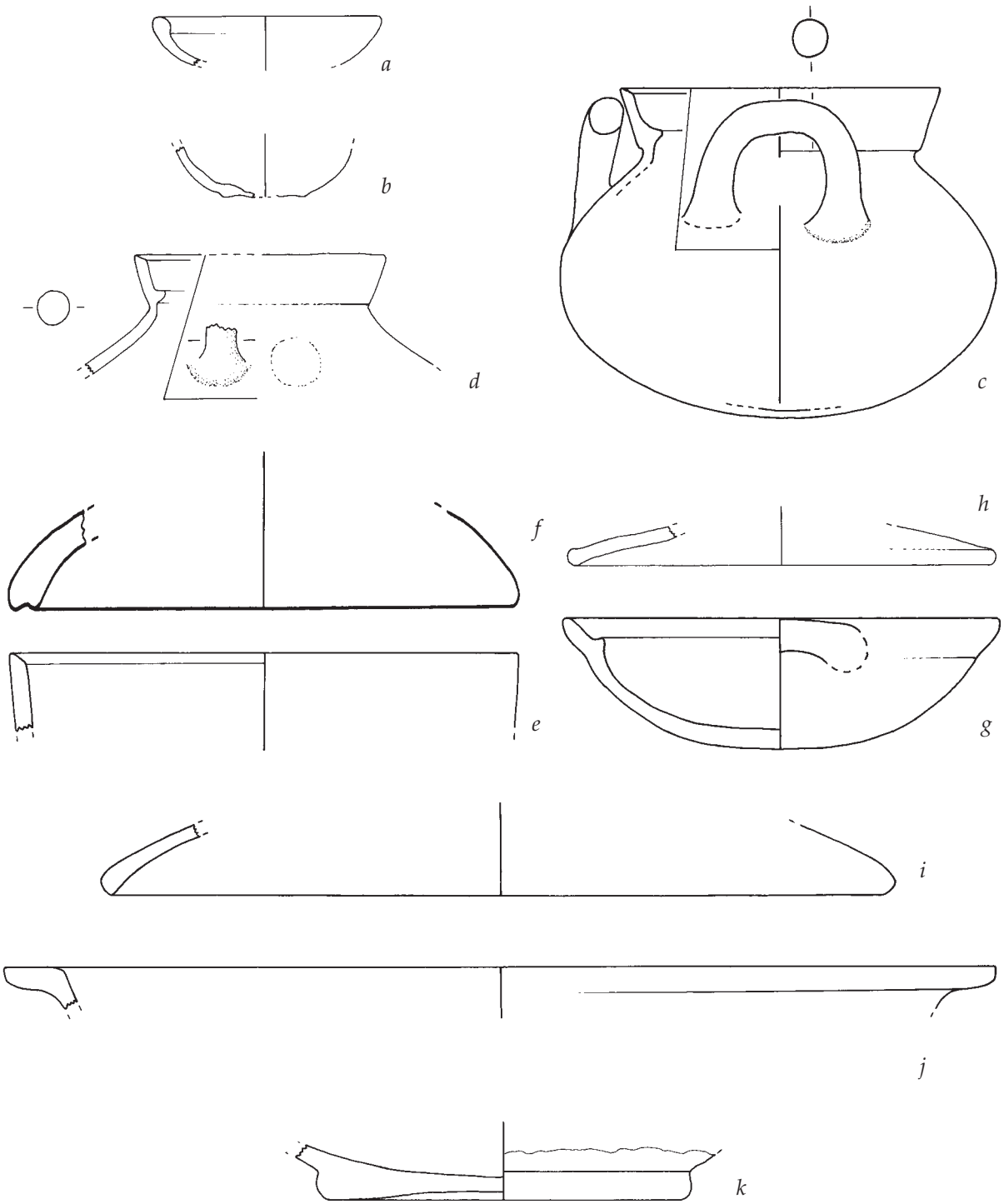


Fig. 26. Fill of septic pit (BM04/7453). Local Cooking and Plain Wares: a-b) small bowls Cat. 28-29, c-d) casseroles Cat. 30-31, e) casserole Cat. 32, f) lid of last? Cat. 36, g) casserole Cat. 33, h) lid of last? Cat. 34, i) large lid of next? Cat. 35, j-k) large Plain Ware basins Cat. 26- 27 (drawings by B. Maraoui Telmini, inked by J. Angenon).

Group') of J.D. Beazley, showing a standard scheme of a nude athlete and a draped figure or other combinations of the two figure types to both sides.[65] In this connection, a large skyphos of the Fat Boy Group from the Hamburg excavations below the *Decumanus Maximus* may be mentioned, especially since it had perhaps been used as a foundation deposit.[66] A Red Figure skyphos, most likely of the Fat Boy Group too, from the Byrsa necropolis has been dated to the first quarter of the 4th century BC.[67] The subject matter of Cat. 1 finds no direct parallels in the accessible bibliographical repertoires for the second half of the 5th and the first half of the 4th century BC.[68] More Attic Red Figure fragments from this general time period have been found in the Carthaginian settlement, see for example the ones published from the DAI excavations.[69]

Cat. 2: BM04/40432, wall fragment of a squat net lekythos (fig. 24e)
Clay reddish yellow (5 YR 7/6); pattern of a grid of oblique intersecting lines (net motif) carefully drawn in black, over-fired partly light brown and red; irregularly spaced dots in added white. Dimensions: 0.8 x 1.9 cm.

At Olynthus, this type of lekythos is generally dated to the first half of the 4th century BC, whereas most may be attributed more precisely to the second quarter of the 5th century BC.[70] Two similar squat net lekythoi from Tharros, now in the British Museum, are also dated to the 4th century BC.[71] At Carthage, these lekythoi are frequently found in graves of the first half of 4th century BC.[72] The Attic ones, which are considered to be older, date to the first quarter or the first thirty years of the 4th century BC.[73]

Cat. 3: BM04/40817, squat lekythos with shallow ridge at the attachment of the neck; neck, lip and handle broken off, ring base chipped (figs. 24b, 30)
Clay reddish yellow (5YR7/6), surface black glazed, for the better part over-fired to red (2.5 YR 4/8); very few, very fine mica. On the belly, representation of female head on reserved band looking left is just visible; surface extremely worn. Preserved H 6.7 cm, diam. base 4.8 cm, max. diam. belly 5.8 cm.

The shape of the belly, the foot and the dimensions find close comparisons in Class XIIIc ('Klasse des L.M. Malers') of the Attic squat lekythoi of W.W. Rudolph, dated to the last quarter of the 5th to within the first quarter of the 4th century BC.[74] Especially a lekythos from the Cyrenaica, now in London, is close in shape and dimensions.[75] Squat

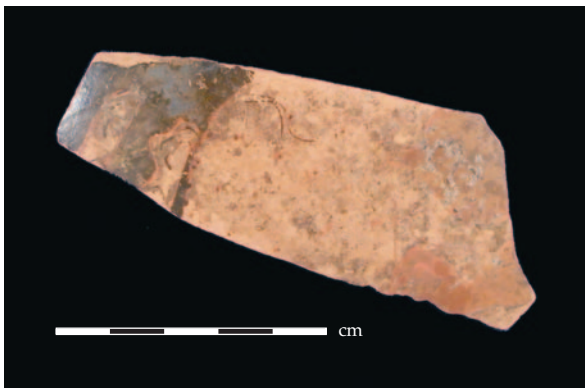


Fig. 27. Attic skyphos fragment Cat. 1 from fill of septic pit BM04/7453 (photo by G. Toch).

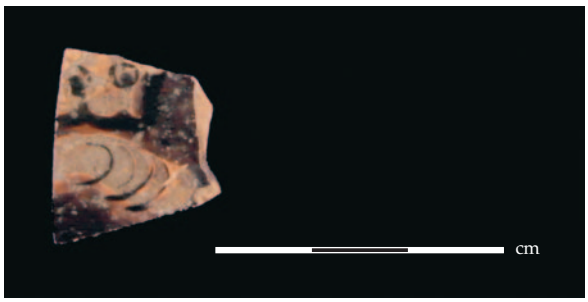


Fig. 28. Attic askos fragment Cat. 5 from fill of septic pit BM04/7453 (photo by G. Toch).

Fig. 29. Siciliote skyphos fragment Cat. 6 from fill of septic pit BM04/7453 (photo by G. Toch).

lekythoi occur in Carthaginian tombs of the end of the 5th century BC and especially of the first half of the 4th century BC.[76] The two (Attic and Sicilote) Red-Figure ones studied by Chelbi are dated to the second quarter or the middle of the 4th century and the last thirty years of that century, respectively.[77] At the same time, Chelbi draws

Fig. 30. Attic lekythos Cat. 3 from fill of septic pit BM04/7453 (photo by W.D.J. van de Put).

attention to the fact that this type of vase is missing in Carthaginian habitation layers from the last quarter or end of the 4th century BC onwards.[78]

Cat. 4: BM04/40431, shoulder fragment with transition to neck of small oinochoe, probably as last one, shallow ridge at the attachment of the neck; orientation uncertain (fig. 24c)
Clay reddish yellow (5 YR 7/6), surface black glazed, surface worn. Preserved H 1.9 cm, diam. at ridge 2.6 cm.

The fragment is too small to allow for a precise date and attribution.

Cat. 5: BM04/40430, shoulder fragment of askos/guttus (figs. 24f, 28)
Clay reddish yellow (5 YR 7/6), on the left, head of a panther or a griffin, looking right, with part of its clumsily rendered foreleg to the right. Dimensions 1.9 x 1.9 cm.

Some good parallels for the occurrence of griffins and especially the clumsy rendering of the forelegs, may be found in Attic and possibly South-Italian Red-Figure askoi, for example an Attic one from Rhodes, now in Munich,[79] an Italian one ('attico-italiote sans orgine déterminée') now in the Musée de Sèvres,[80] and an Attic one of the 'Group of the Cambridge Askos' from grave 343 of the Necropoli del Canal Bianco of Adria.[81] In all three cases, a sitting griffin is depicted on both sides of the handle. The askoi are generally dated to around 350 BC or in the 4th century BC. Especially askoi of the 'Group of the Cambridge Askos' and the related ones of the Painter of Ferrara T.408 show many depictions of panthers (and griffins), almost always in connection with a head of an Arimasp.[82]

Panthers, and more regularly griffins, may also be depicted on the lids of lekanides or pyxides,[83] but the fact that the present fragment is unpainted and not smoothed on its interior, suggests that we are dealing with a closed vessel, viz. an askos or guttus.

SICILIOTE RED FIGURE
Cat. 6: BM04/40429, rim fragment of a large skyphos (figs. 24d, 29)
Clay reddish yellow (5 YR 7/6), glazed black on interior, heavily pitted, decoration below rim on exterior consists of vegetal band, of which one ivy leave has been preserved. To the left, a dot-cluster (rosette) in added white is visible. The stem of the ivy leave seems to have been incised in the black glaze. Diam. rim about 26 cm, preserved H 2.7 cm.

An ivy band around the rim is regularly found on Siciliote Red Figure vases of the 4th century BC.[84] However, no (large) skyphos with such a decoration on the rim has come to my notice in the most accessible published repertoires; it seems to be much more typical for lids of skyphoid pyxides and calyx- and bell-craters. The rather squarish rendering of the ivy leaf finds good comparisons on, for example, the lid of a skyphoid pyxis from Spina attributed to the Lentini Painter.[85] Also larger vases as, for example, calyx-kraters of the Adrastos Group show similar renderings of the ivy leaf (with added white dot-clusters/rosettes) in the upper zone of the rim.[86] Also two calyx-craters of the Gibil Gabib Group, part of the Lentini Group, show a comparably rendered ivy leaf band.[87] The Lentini Group is dated to about 350-330 BC, the Adrastos Group to about 330-320 BC.

ATTIC BLACK GLAZE WARE
Cat. 7: BM04/40403, rim fragment of a small bowl with incurved rim (fig. 24i)
Clay reddish yellow (5 YR 7/6), very glossy black glaze. Diam. rim 8 cm, preserved H 1.8 cm.

The shape is very common in contexts of the last quarter of the 5th century BC and lasted into the Hellenistic period.[88] The present fragment is close to the Athenian Agora bowls 876 and 882, the former dated to the late 5th and the latter to the first quarter of the 4th century BC.[89] The present fragment may also be connected with serie 2714 of Morel's classification, in which an Attic exemple from a deposit in Megara Hyblaea is dated to shortly after 340 BC.[90] Very similar small bowls from Tharros date to the 4th century BC, but main-

ly to about 400 BC.[91] At Carthage, very similar small bowls have been dated to the last quarter of the 5th century BC.[92] Thus, a dating to the 5th century till the early 4th century BC may be put forward for this fragment, although the Megara Hyblaea date suggests that a circulation of these vessels till the third quarter of the 4th century BC is possible.

Cat. 8: BM04/40417, rim fragment of miniature pyxis (fig. 24j)
Clay reddish yellow (5 YR 6/6), very glossy black glaze. Diam. rim 3.2 cm, preserved H 1.1 cm.

For this rim fragment one may cite the small pyxides nos 940-944 in the excavations at Olynthus as good parallels. These are of the 'salt-cellar' type with concave sides and flaring base, dating to the early 4th century BC.[93]

Cat. 9: BM04/40404, ring base fragment with tondo of a small bowl (fig. 24h)
Clay reddish yellow (5 YR 7/6), very glossy black glaze, stamped decoration on interior. Diam. base 4.7 cm, preserved H 1.6 cm.

The base fragment is characterised by a ringfoot of double convex section and a horizontal base plate. Of the stamped decoration two of originally four deep palmettes with nine petals are preserved. They are connected by incised curved lines and framed similarly.[94] Two light concentric grooves are partly visible just around the palmettes.[95] The reserved underside is decorated with two concentric circles painted in black encircled by a black painted line. This kind of biconvex ringfeet, with hardly pronounced curve, is highly characteristical for examples of the late 5th century BC.[96] Besides, the presence of grooves to delimit the palmettes and the arrangement of reserved and painted surface on the underside of the base support a dating to within the late 5th century and the first quarter of the 4th century BC.

Cat. 10: BM04/40405, ring base fragment with tondo of a bowl (fig. 24g)
Clay reddish yellow (5 YR 7/6), very glossy black glaze, stamped decoration on interior. Diam. base 8 cm, preserved H 1.9 cm.

The stamped decoration on the interior consists of eight separate palmettes of 11 petals each (six palmettes preserved) around an incised circle, and a design of ovules. The reserved underside is decorated with painted circles and a central dot, enclosed by a black line.[97] A similar ringbase fragment from Carthage has been dated to the first quarter of the 4th century BC.[98] The decoration of palmettes around an incised circle, typically of the late 5th century BC, and the presence of ovules and the delimiting double incised lines, may suggest a dating for the present fragment to within the late 5th century BC and the beginning of the 4th century BC.[99]

Cat. 11: BM04/40413, ringbase fragment of oinochoe with lower part of belly (fig. 24o)
Clay reddish yellow (7.5 YR 7/6), very glossy black glaze preserved on exterior, leaving the underside reserved/unpainted. Diam. base 7 cm, preserved H 1.4 cm.

For such bases one may refer to the typology of Morel.[100] It is possible that the fragment belongs to a squat lekythos.

Cat. 12: BM04/40426, 3 joining fragments of a lamp spout (fig. 24k)[101]
Clay pale olive (5 Y 6/3) very glossy black glaze. Preserved L. 2.7 cm.
Cat. 13: BM04/40427, spout fragment of a lamp with part of body and long nozzle (fig. 24l)
Clay reddish yellow (7.5 YR 6/6), black glaze on the inside, completely gone on the outside. Preserved H. 2.1 cm; L. of spout 3.5 cm.

Although Cat. 12 has not been preserved sufficiently enough to allow for a certain attribution, it may well have been of the same type as Cat. 13. This lamp type with globular body, of which the upper part is flat and provided with a narrow groove around the filling hole (just visible in Cat. 13, *fig. 24l*), and a rather long spout, is of type 25A in the classification of lamps from the Athenian Agora.[102] The lamps of this type are dated to the second quarter of the 4th century BC till the first quarter of the 3rd century BC.[103] Good comparisons for Cat. 13 may also be found in the repertoire excavated in the mining town of Thorikos (Laurion, Attica): 'Lamps with rim set off from rounded shoulder by a pronounced groove; globular body and high base.' These are dated more generally to the 4th (and early 3rd) century BC.[104]

SOUTH ITALIAN AND SICILIOTE BLACK GLAZE WARE
Cat. 14: BM04/40402, rim fragment of a bowl with outturned rim (fig. 24m)
Clay light brown (7.5 YR 6/4), very glossy black glaze. Diam. rim 13.1 cm, max. diam. of the body 13.1 cm, preserved H 3.5 cm.

Bowls with outturned rim are not common before the last quarter of the 5th century BC.[105] In the 4th century BC, however, the type becomes rather popular, remaining so till well into the Hellenistic period.[106] The present fragment is

closely matched by Athenian bowls dated to before the middle of the 4th century BC.[107] In the typology of N. Lamboglia it corresponds to type 22, which is common in Greece during the whole 4th century BC.[108] In the typology of Morel it occurs as type 2681a, which includes both Attic examples and imitations in other production centres, dating to the first half of the 4th century BC.[109] In Carthage, Chelbi has discussed the occurrence of such bowls in the necropoleis.[110] The earliest examples in the Carthaginian settlement may date to the second quarter of the 4th century BC.[111]

Cat. 15: BM04/40416, rim fragment of a bowl with outturned rim (fig. 24n)
Clay reddish yellow (5 YR 6/6), very glossy black glaze. Diam. rim 14.2 cm, preserved H 2.1 cm.

On typology and comparisons, see Cat. 14. However, the profile of this fragment is more 'relaxed' than the last fragment and may be compared to Athenian examples of the second half of the 4th century BC.[112]

Cat. 16: BM04/40406, lower part of small oinochoe (ring base with lower part of belly) (fig. 24p)
Clay gray (7.5 YR N6/), interior pink (5 YR 7/4). Diam. base 4.2 cm, max. diam. belly 6.2 cm, preserved H 4 cm.

This fragment is in all likelihood to be attributed to a Siciliote production, and more precisely to a production situated in Lilybaeum.[113] The fragment is very close to a Black Glaze Ware lekythos with vertically grooved (a strigilato) body, found in the necropolis of Lilybaeum.[114] It is a Black Glaze production that is very well distributed in Sicilian contexts of the second half of the 4th century BC.

IMPORTED TRANSPORT AMPHORAE
Cat. 17: BM04/40433, rim fragment of amphora of 'Corinthian B' type (fig. 25a)
Clay very pale brown (10 YR 7/4). Diam. rim 14 cm, preserved H. 7.2 cm.

The triangular rim has a flat top and a ridge at the transition to the neck. It may be attributed on the basis of the shape and the clay properties to the so-called Corinthian B type amphorae of the Classical period. These amphorae have been produced mainly in the area of Kerkyra/Corfu and Bouthrotos/Butrint.[115] In the recent classification of V. Gassner, this particular rim shape is called 'Randform 5'.[116] The amphora type is among the main types imported in Carthage during the Middle Punic period. It is particularly frequent in the American excavations in the Commercial Harbour area and especially within the material found in the fill of the Punic channel dated to about 350 BC.[117] Several fragments have been published in the DAI excavations in the Rue Ibn Chabâat (cf. fig. 1) in a context of the second half of the 4th century BC.[118] The type seems to disappear in Carthaginian contexts during the 3rd century BC.[119]

Cat. 18: BM04/40423, rim fragment of amphora, from Malta? (fig. 25c)
Clay red (2.5YR 5/8), surface light red (2.5 YR 6/8). Diam. rim 11.5 cm, preserved H 5 cm.

The rim fragment is close in shape to amphora profiles of J. Ramón's type T-2.2.1.2, which seems to have been produced on Malta and in Tunisia.[120] The type is dated principally to the first half of the 4th century BC till ca 330 BC, but the production may have started already in the last decennia of the 5th century BC. Of this type an example has been published from the DAI excavations in the Magon Quarter.[121]

Cat. 19: BM04/40437, base fragment of amphora, from Samos? (fig. 25b)
Clay red (10 R 5/6), surface reddish yellow (7.5 YR 7/6); some quartz (0.5 mm), lime, and grey particles. Diam. base 5.4 cm, preserved H 8 cm.

The base fragment may probably be attributed on the basis of the shape and the clay properties to a Samian amphora. A similar base, attributed to Samos, has been published from Carthage in a context of 'stratum VI-1a1' in the excavations of the University of Hamburg, dated to ca 480-425 BC.[122] The present fragment seems to show a less 'bulky' profile in its lower part, for which reason one may perhaps assign it a later date.

LOCAL TRANSPORT AMPHORA ('KTS CLAY STRUCTURE')
Cat. 20: BM04/40424, rim fragment of amphora (fig. 25d)
Clay KTS, surface white (2.5 Y 8/2). Diam. rim 13 cm, preserved H 3.1 cm.

The local amphora fragment may be attributed to Ramón's type T-2.2.1.2, which had apparently been produced in Tunisia and on Malta. Context BM04/7453 contains also an imported amphora of more or less the same shape, attributed to Malta (see Cat. 18, supra). The shape appeared during the two last decades of the 5th century BC and became very common mainly during the first thirty years or even first half of the 4th century BC.[123] Two very closely related amphorae have been found in the necropolis of the area dei Vivai Gitto at Palermo, in graves that had been in use

Fig. 31. Local Punic juglet Cat. 24 from fill of septic pit BM04/7453 (photo by M. Achour).

during the 4th century BC, but mainly between ca 350 and 340 BC.[124]

IMPORTED PAINTED WARE

Cat. 21: BM04/40412, rim fragment of a lid, from Sardinia? (fig. 25g)
Clay reddish yellow (5 YR 6/8) at core, exterior surface reddish yellow (5 YR 6/6) with probable traces of light reddish brown painting (5YR 6/3) consisting of a horizontal line at the rim's exterior and at least one vertical line touching it. Diam. rim c. 13 cm, preserved H 1.1 cm.

The rim fragment is probably to be attributed to a lid of Vegas' form 43.1.[125] The ones decorated with painted lines (Painted Ware) are of rather small dimensions (9-10.5 cm in diam.). The present one is only slightly larger, but is also to be considered as an import, perhaps from Sardinia (see also infra, Cat. 56).

PUNIC PAINTED WARE, LOCAL FABRIC ('KTS CLAY STRUCTURE')

Cat. 22: BM04/40420, rim fragment of a jug (fig. 25h)
Clay KTS, reddish yellow (5 YR 7/6) in core, white (2.5 YR 8/2) on surface, painted strokes on the rim, yellowish brown (10 YR 5/4). Diam. rim 8.1 cm, preserved H 1.5 cm.

The rim fragment finds its best comparisons in egg-shaped jugs of Vegas' form 25, although these seem to have been generally executed in Bichrome Ware and to have smaller rim diameters.[126]

Cat. 23: BM04/40410, rim fragment of basin (fig. 25e)
Clay KTS, reddish yellow (5 YR 6/8) in core, reddish yellow (5 YR 8/4) on external surface, white slip? (10 YR 8/2) on internal surface; red painted (10 R 5/6) on top of the rim. Diam. rim 33.2 cm, preserved H 4.6 cm.

This rim fragment of a large basin in the Painted Ware is a variant of form 51.1 in Vegas' recent typology, which appears in levels of the 5th and 4th centuries, being probably residual in 3rd-century BC contexts.[127] This form is also attested among the pottery of Middle Punic date from the metallurgical workshops at the southern Byrsa Hill.[128] For local Plain Ware versions of the same shape, see also infra, Cat. 26-27 (*fig. 26j-k*). It is tentatively suggested that these basins may sometimes have been covered with large lids, as for example Cat. 35 (*fig. 26i*, infra).

PUNIC PLAIN WARE, LOCAL FABRIC ('KTS CLAY STRUCTURE')

Cat. 24: BM04/40435, one-handled juglet, incurved bottom, oval body, cone-shaped shoulder to neck with rounded flaring rim; handle broken off (figs. 25f, 31)
Clay pink (5 YR 8/4) in core, white (5 Y 8/2) on external surface. Diam. rim 4.4 cm, diam. base 3.8 cm, max. diam. belly 6.6 cm, max. H 11.3 cm.

The one-handled juglet has been rather well preserved. It may be compared with 4th and 3rd century BC examples from Carthage and elsewhere in North Africa.[129] Its shape corresponds to juglets BR 6A and BR 6B of the Lilybaeum necropolis, of which B. Bechtold sees the prototypes in the Athenian banded and the black footless jugs of the 6th century BC and the first quarter of the 5th century BC.[130] These vessels are particularly frequent in Sicily during the 5th and 4th centuries BC.[131] At Ibiza, J.H. Fernández attributes these jugs to 'Grupo B' of his type Eb.13, of which the examples from well-dated tomb contexts provide a date between the late 5th and the middle of the 4th century BC.[132] On Sardinia, these jugs are equally well distributed during the 5th and 4th

centuries BC. In the publication of the necropolis of Bitia, P. Bartoloni lists these jugs as Form 22 and dates them between the first quarter of the 5th and the middle of the 4th century BC.[133] A jug of similar profile has been published in the necropolis material from Tharros, now in the British Museum, generally dated to the 4th till 2nd century BC.[134] It has been found in association with an Attic squat net lekythos dating to the 4th century BC, just as in the present context BM04/7453 (Cat. 2, *fig. 24e*). The jug type is also attested in the material from the Arg-el-Gazouani necropolis near Kerkouane, where it is generally dated to the 4th century BC.[135]

Cat. 25: BM04/40421, rim fragment of trefoil-mouthed jug (fig. 25i)
Clay light red (10 R 6/8) in core, white (5 Y 8/2) on external surface, in places pink (5 YR 8/4). Diam. rim ca 5 cm, preserved H 5.7 cm.

The rim is clearly of a trefoil-mouthed jug of form 33.2 in Vegas' classification, which is generally dated to the Archaic till Middle Punic periods.[136] In the typology of P. Cintas several parallels for this particular shape can be found, both in the Painted and in the Plain Wares. Cintas dates them to the 4th and 3rd centuries BC.[137] The type is also rather frequently encountered among the material of the Arg-el-Gazouani necropolis at Kerkouane.[138]

Cat. 26: BM04/40407, base fragment of basin (fig. 26k)
Clay reddish yellow (5 YR 6/6) in core, white (2.5 Y 8/2) on external surface (bottom).
Dimensions: diam. base 13.3 cm, preserved H 2 cm.

Cat. 27: BM04/40409, two joining rim fragments of basin (fig. 26j)
Clay light red (10 R 6/8), brownish yellow (10 YR 6/6) in core, pale yellow (5 Y 8/3) on external surface. Max. diam. rim ca 40 cm, preserved H 1.5 cm.

The rim fragments of Cat. 27 (*fig. 26j*) may be attributed to Plain Ware versions of large basins of form 51.1 in Vegas' recent typology.[139] These had also been produced in the local Painted Ware (supra, Cat. 23, *fig. 25e*). These basins appear in levels of the 5th and 4th centuries, being probably residual in 3rd century BC contexts. The base fragment Cat. 26 (*fig. 26k*) probably belongs to a similar basin, but the clay does not match that of Cat. 27, so we are dealing with two different vessels.

Cat. 28: BM04/40418, two joining rim fragments of a small bowl (fig. 26a)
Clay reddish yellow (5 YR 6/6), pinkish white (5 YR 8/2) on surface, traces of firing on surface. Diam. rim 6 cm, preserved H 2.2 cm.

This type of small bowl is close to cooking pots of Cintas' form 58.[140] It belongs to the main forms found in the funerary layers of the Byrsa Hill from the second quarter or middle of the 7th century BC onwards.[141] Being of variable dimensions,[142] they are provided with one handle or a knob/grip.[143] Two comparable small bowls of the same diameters have been found among the Archaic finds from the DAI excavations.[144] Numerous fragments of this type have been published from the stratigraphy below House II in the Magon Quarter.[145] The 1983 rescue excavations at the Ben Ayed plot in the northern part of the Bir Massouda terrain (cf. fig. 1) yielded a 'vase à feu' or 'brasero' with a comparable profile, albeit of larger dimensions.[146] In fact, one is dealing with an intermediate variety, situated between Vegas' form 60.1, which is dated to the 7th and 5th centuries BC, and Vegas' form 60.2, dated to the 5th and 4th centuries BC.[147]

Cat. 29: BM04/40419, three joining base fragments of a small cup/bowl (fig. 26b)
Clay reddish yellow (5 YR 6/6), pinkish white (5 YR 8/2) on surface with traces of firing. Diam. base 3 cm, preserved H 1.7 cm.

The base fragments may have belonged to a similar shape as the preceding vessel (Cat. 28, *fig. 26a*).

PUNIC KITCHEN WARE, LOCAL FABRIC ('KTS CLAY STRUCTURE')
Cat. 30: BM04/40816, casserole (figs. 26c, 32)
Clay red (2.5 YR 5/8), external surface reddish grey (5 YR 5/2), traces of firing on surface. Intact, rim slightly damaged. Diam. rim 11.3 cm, max. H 11.5 cm, max. diam belly 15.5 cm.

The almost intact globular marmite with rounded base, internal ridge on the rim's interior and two horizontal handles, which are circular in section, finds no convincing parallels within the recent typology of Punic cooking vessels from the DAI excavations in Carthage.[148] Also the earlier typology of Cintas only yields Carthaginian examples with much straighter walls, generally dated to the 4th and 3rd centuries BC.[149] The best comparison may be found in a casserole from the necropolis of Lilybaeum, where it has been published as type PE 1, 'pentola biansata con pancia globulare'.[150] This particular piece has been found in a funerary context of the first quarter of the 3rd century BC, although Bechtold cites examples of the 4th century as well.

Fig. 32. Local Punic casserole Cat. 30 from fill of septic pit BM04/7453 (photo by H. Ben Romdhane).

A very close parallel can be found among the lidded chytrai of the Athenian Agora, especially cat. 1956, dated to the middle or late 4th century BC.[151] It is also a chytra with globular body, but without spout, considered to be a direct descendant of the lidded chytrai of the middle and second half of the 5th century BC.

Cat. 31: BM04/40422, six joining rim fragments of casserole, rim slightly deformed (fig. 26d)
Clay 'sandwich', reddish brown (5 YR 4/4), at the interior dark reddish gray (5 YR 4/2), dark gray on surface. Diam. rim ca 8.8 cm, preserved H 3.8 cm.

The rim belongs to a cooking pot of form 67 in Vegas' recent typology.[152] The contexts in which these vessels have been found in the DAI excavations in Carthage point to a dating in the 5th and 4th centuries BC.

Cat. 32: BM04/40434, two joining rim fragments of casserole (fig. 26e)
Clay dark gray (2.5 YR N4/), surface dark gray (2.5 YR N4/). Diam. rim 18 cm, preserved H 2.4 cm.

The rim is characterised by a vertical profile and may have belonged to a one-handled globular casserole, for which the necropolis of Lilybaeum has yielded a good parallel. It is discussed by Bechtold as type PE 2 ('pentola monoansata con orlo verticale e corpo sferico').[153] A general dating in the 4th or 3rd century BC seems likely on the basis of the parallels quoted by Bechtold. In Carthage, it is to be compared with numbers 99 and 100 in the typology of Cintas, which have a similar date range.[154] It is not to be excluded that this casserole went together with lid Cat. 36 (*fig. 26f*, infra).

Cat. 33: BM04/40408, three joining rim fragments of a casserole (fig. 26g)
Clay red (2.5 YR 5/8); traces of fire on the external surface. Diam. rim 15.5 cm, preserved H 4.5 cm.

This rim of a casserole may be attributed to form 68.1 in the typology of Vegas.[155] This Carthaginian cooking vessel imitates the Greek *lopades* and had been in use during the 5th and 4th centuries BC. An almost identical example has been found in the Tuniso-Belgian excavations of the year 2002 and has been published in the first preliminary report.[156] Bechtold dates the context (BM02/1234) to the first 30 years of the 4th century BC. In the excavations of the University of Hamburg below the *Decumanus Maximus* (cf. fig. 1), these casseroles essentially appear in contexts of the second half of the 5th and the first half of the 4th centuries BC.[157] It is not to be excluded that this casserole went together with lid Cat. 34 (*fig. 26h*, infra).

Cat. 34: BM04/40414, rim fragment of lid (fig. 26h)
Clay red (2.5 YR 5/8), external surface reddish yellow (5 YR 7/6), internal surface pink (5 YR 7/3). Diam. rim 15 cm, preserved H 1.3 cm.

The lid fragment is to be compared with form 70.1 in Vegas' typology, generally dated to the 5th till 3rd century BC.[158] It may well have belonged to one of the casseroles discussed above. In fact the rim diameter of Cat. 33 (*fig. 26g*) would perhaps fit.

Cat. 35: BM04/40415, rim fragment of lid (fig. 26i)
Clay 'sandwich', internal half grayish brown (2.Y 5/2), external half strong brown (7.5 YR 5/6), surface gray 5 Y 6/1). Diam. rim ca 28 cm, preserved H 2.1 cm.

Cat. 36: BM04/40411, rim fragment of lid (fig. 26f)
Clay red (10 R 5/6), surface light yellowish brown (10 YR 6/4). Diam. rim ca 18 cm, preserved H 1.5 cm.

Although these lids may theoretically have belonged to one of the casseroles discussed above, only the rim diameter of the straight-walled casserole Cat. 32 (*fig. 26e*) would go with the rim diameter of Cat. 36. Also the groove in the lid's rim profile would then find a logical explanation. The rim diameter of Cat. 35 is too large to correspond to any of the other cooking vessels discussed above. However, the rim diameter suggestively matches that of basins like Cat. 23 (*fig. 25e*). Had these basins sometimes been closed with such large lids? Otherwise, no logical shape (to be covered) can be proposed in the Punic pottery repertoire.

Metal objects

H. Koens

The fill of the septic pit contained 16 fragments of metal: copper/bronze (7), iron (8) and silver (1). Apart from that, 1 porous fragment of possible slag was encountered (BM04/42980), which may well be a residual element of the former metallurgical zone in the area. After a first X-ray scanning in the Academic Medical Centre (University of Amsterdam),[159] the metal objects have been studied and partly analysed with more advanced techniques (Energy Dispersive X-Ray spectrometer in a scanning electron microscope, SEM/EDX) at the Netherlands Institute for Cultural Heritage (ICN) in Amsterdam. Restoration proved, in most cases, not to be worthwhile given the desperate state of preservation in relation to the fact that often not even the original shape or function could be established. The composition of this small group of metals is rather characteristical for Carthaginian settlement contexts of the Punic period. On the other hand, the occurrence of a silver ring (from a sieving context) is a rarity. Only once before has a silver object (pendant with blue faience scarab from Naucratis) been found on the Bir Massouda site, in the excavations of the University of Hamburg below the *Decumanus Maximus* (cf. *fig. 1*).[160]

COPPER/BRONZE

Cat. 37: BM04/40813, 1 amorphous fragment
L. 5.5 cm, max. w. 1.4 cm, max. th. 1.1 cm.
Cat. 38: BM04/42969, 1 amorphous fragment, flake
Cat. 39: BM04/42970, 1 amorphous fragment, flake
Cat. 40: BM04/42971, 1 almost round fragment
Max. diam. 1.2 cm.
Cat. 41: BM04/42972, 1 flat fragment
L. 1.6 cm, max. w. 0.9 cm, max. th. 0.6 cm.
Cat. 42: BM04/42778, 1 complete nail, convex head, slightly tapering shaft, round in section
L. 2.9 cm, max. diam. head 2.2 cm, diam. shaft below head 0.5 cm.
Cat. 43: BM04/42954, 1 irregularly shaped fragment of bronze
L. 0.7 cm, max. w. 0.6 cm, max. th. 0.3 cm.

IRON

Cat. 44: BM04/42958, 1 fragment of rod, perhaps part of a nail
L. 1.8 cm, max. diam. 0.7 cm.
Cat. 45: BM04/42973, 1 fragment, irregular shaped
L. 3.6 cm, max. diam. 0.9 cm.
Cat. 46: BM04/42974, 1 irregular-shaped fragment, flake.
Cat. 47: BM04/42975, 1 irregular-shaped fragment, flake.
Cat. 48: BM04/42976, 1 irregular-shaped fragment, flake.
Cat. 49: BM04/42977, 1 irregular-shaped fragment, flake.
Cat. 50: BM04/42978, 1 irregular-shaped fragment, flake.
Cat. 51: BM04/42979, 1 irregular-shaped fragment, not magnetic, totally corroded
L. 0.9 cm, max. w. 0.6 cm, max. th. 0.3 cm.

SILVER (*I. Joosten & H. Koens*)

Cat. 52: BM04/42955, 1 fragment, tiny silver ring with small faience bead (figs. 33a, 34)
The faience bead has a white core with a light yellowish touch; glazed surface almost completely worn off. Diam. ring outside 0.38 cm, max. th. 0,06 cm. Diam. bead approximately 0.1 cm.

This object has been examined by SEM/EDX. The metal was shown to be silver covered with silver chloride, the latter being a regular corrosion product. It is a remarkable fact that no single trace of lead could be observed in the silver (*fig. 35*). The silver chloride (but not the metallic silver) contains a relatively high level of bromine (Br), which is not surprising since the properties of both elements (bromine, Br, and chlorine, Cl) are almost identical (*fig. 36*). Bromine is the most important element in purple and is to some extent soluble in water, and chlorides are porous and absorbent (in contrast to metallic silver). The bromide may therefore well be a post-depositional inclusion in the object, perhaps in relation with the deposit of crushed murex shell fragments found in the same context. In the corrosion product of the silver ring, the way of production has been clearly preserved: the eye has been made by turning the silver wire into a loop.[161]

The small bead, still in place in the silver ring, is most probably made of faience. The elements found in the EDX analyses show that all elements present in clay, silicium (Si), calcium (Ca), potasium (K), aluminium (Al) and traces of sodium (Na) and iron (Fe), are also present in the bead's

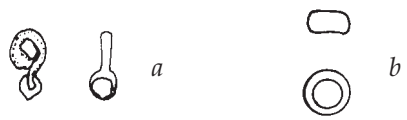


Fig. 33. Fill of septic pit BM04/7453: a) silver pendant with faience bead Cat. 52, b) glass bead Cat. 53 (drawings by J. Angenon).

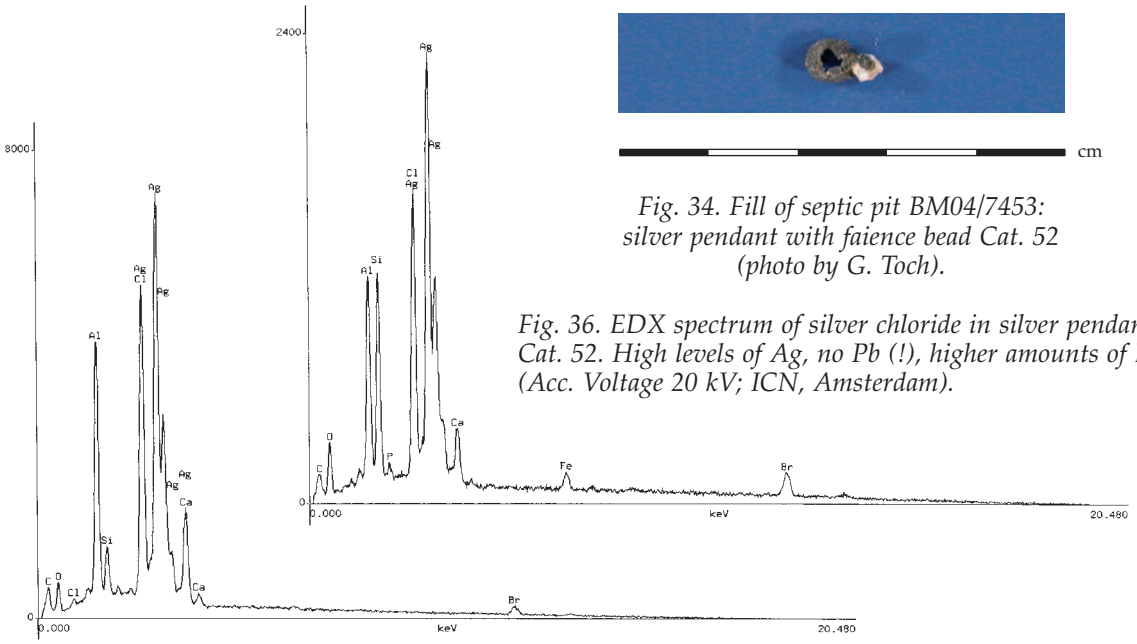


Fig. 34. Fill of septic pit BM04/7453: silver pendant with faience bead Cat. 52 (photo by G. Toch).

Fig. 36. EDX spectrum of silver chloride in silver pendant Cat. 52. High levels of Ag, no Pb (!), higher amounts of Br (Acc. Voltage 20 kV; ICN, Amsterdam).

Fig. 35. EDX spectrum of metallic silver in silver pendant Cat. 52. High levels of Ag, no Pb (!), small amounts of Br (Acc. Voltage 20 kV; ICN, Amsterdam).

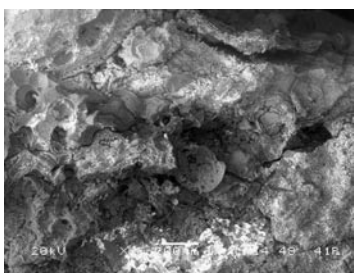


Fig. 37. Backscattered electron image of faience bead in silver pendant Cat. 52: ceramic ground mass (ICN, Amsterdam).

Fig. 38. Backscattered electron image of faience bead in silver pendant Cat. 52: glazed surface in left half (ICN, Amsterdam).

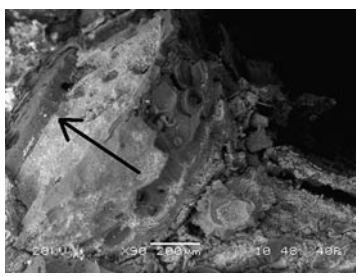


Fig. 39. Backscattered electron image of faience bead in silver pendant Cat. 52: ceramic ground mass covered by glazed surface, see arrow (ICN, Amsterdam).

core (*figs. 37, 41*). When magnified 500 times, it could be observed that only part of the original smooth surface with encapsulated airholes has been preserved (*figs. 38-39*). The EDX spectrum of this surface (*fig. 40*) is shown to be mainly composed of sodium (Na), silicium (Si) and calcium (Ca) with the regular corrosions (combinations with oxide, O). This is a clear indication of either glass or a glazed surface. Also attested are clear concentrations of antimony (Sb). It was used in Antiquity mainly as a pigment for broken white or yellow, so, in all likelihood, the faience bead had originally been of one of these colours.

Faience and glass paste

T. Redissi

Cat. 52: BM04/42955, see the description above (figs. 33a, 34)

The use of silver wire passing through the hole of an object (beads and the like) and shaping its end into a suspension ring, is a very well known technical procedure in Phoenician and Punic silver smithing. One may cite examples for it with glass paste beads in a funerary context (tomb 159), which probably dates to the Cypro-Archaic II period (ca 600-475 BC), at Amathus on Cyprus,[162]

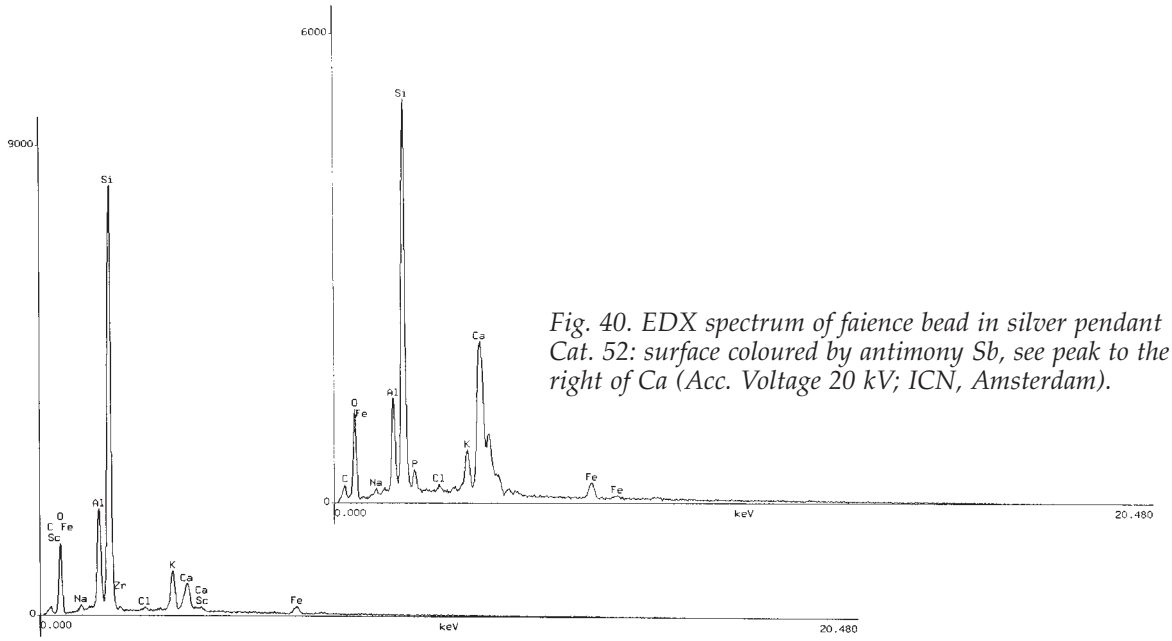


Fig. 40. EDX spectrum of faience bead in silver pendant Cat. 52: surface coloured by antimony Sb, see peak to the right of Ca (Acc. Voltage 20 kV; ICN, Amsterdam).

Fig. 41. EDX spectrum of faience bead in silver pendant Cat. 52: ceramic ground mass, note the absence of antimony Sb (Acc. Voltage 20 kV; ICN, Amsterdam).

and in tomb 186 of the Dermech necropolis at Carthage,[163] dated to the 5th century BC. Similarly, pendants in blue silicious paste, shaped as lotus flowers and provided with silver suspension rings, have been published from 'Atlit in Israel within tomb 24, which is dated to the end of the 5th and the beginning of the 4th century BC.[164] Comparable but fragmentary suspension rings, originally used to receive necklace elements, have been documented in tombs of the 6th and 5th centuries BC, again at Amathus[165] and 'Atlit.[166] A related technique has been used by Phoenician jewellers employing faience beads for the additional ornamentation of earrings. See for these, for example, the piece excavated in tomb ZR II of Akhziv, which one largely dates to the period of 800-650 BC.[167] In Sardinia, Phoenician and Punic jewellers have equally employed this tradition of combining silver (or bronze) wire with faience or stone beads, with or without shaping their ends into suspension rings, in the round rods, used in making bracelets, as is clearly attested in examples from Tharros.[168]

Cat. 53: BM04/42959, small bead of yellowish white opaque glass, pitted (figs. 33b, 42a)
Diam. 0.6 cm, int. diam. 0.3 cm, th. 0.2 cm.

The ring-shaped bead of almost translucent, greenish glass paste shows some air holes on the surface. Although this rather simple type of glass bead is very commonly represented in necklaces found in funerary contexts, it has never been studied into detail on a separate basis. The *status quaestionis* of these beads is consequently exactly the opposite of that of the well-studied glass paste core-formed beads that have been widely distributed in the Mediterranean world of the first millennium BC.[169]

Ring-shaped glass beads are documented in large numbers all over the Mediterranean. In the context of the present preliminary report, it is impossible to present an exhaustive overview of the published examples of this genre.[170] By way of example, I will only give the statistics on glass beads in the Museum of Ibiza and Formentera. E. Ruano Ruiz, who published the glass beads, lists these plain ones as 'monochrome anulares'.[171] They are with 57.54% of all beads the commonest type. Stratigraphical information from tomb contexts gives dates from the 7th till 3rd centuries BC. In the East, the majority of the finds of these beads are reported in funerary contexts, dating essentially from the end of the 7th till the 4th century BC. I only mention the pieces found in the tombs of Akhziv,[172] the Deve Hüyük necropolis in Syria,[173] of Kamid el-Loz in Lebanon[174] and of 'Atlit in Israel.[175] Among the Phoenician-Punic settlements in the western Mediterranean, Carthage stands out by its high number of this type of ring shaped beads. The best-known examples, dating to with-

in the same chronological range as the ones in the East, have been found in different contexts: necropoleis,[176] open-air sanctuaries,[177] and in settlement contexts.[178] Other comparable finds, which have been attributed to the 4th century BC and originate in the Carthaginian territory, have been published from funerary contexts in the Arg-el-Gazouani necropolis near Kerkouane.[179] Other beads of the same type have been published in funerary contexts of the 5th and 4th centuries BC in Ampurias,[180] and Los Nietos[181] on the Iberian Peninsula, on Ibiza, the Balears[182] and in Tharros on Sardinia,[183] to mention just a few of the many examples.

Cat. 54: BM04/40438: fragment of glass paste (fig. 42b)
Dimensions: 1.6 x 1.1 cm, th. 0.2 cm; porous surface, covered with air holes; small yellowish surface that has turned white; a brown line or glass wire runs over the surface, partially turned into dark yellow. On the interior of the fragment traces of the clay core have been preserved.

The limited dimensions of the fragment do not allow for a reconstruction of the original shape of the vessel. It may, however, in all likelihood have belonged to a small core-formed flask with polychrome decoration formed by the application of glass paste in different colours. These small flasks, which may sometimes be among the best the Phoenician-Punic and Greek Hellenistic glass ateliers have produced, have been widely distributed over the ancient Mediterranean world, essentially between the 7th century BC and the 1st century AD. The best-known types in the Phoenician-Punic world are the alabastra, the aryballoi, the small oinochoai, the amphoriskoi and the unguentaria.[184] From earlier campaigns on the Bir Massouda site, two core glass vessel fragments from Late Archaic and Middle Punic contexts as well as one residually from an Early Roman ('Augustan') context have been presented in relation to an overview of such finds from other Carthaginian settlement contexts.[185]

Garbage disposal in Punic Carthage

R.F. Docter

Garbage disposal and garbage collection form important issues in our understanding of archaeological assemblages in any ancient Mediterranean city. Carthage forms no exception to this rule. So, in a contribution to the 5th International Congress of Phoenician and Punic Studies in Marsala and Palermo in 2000, these issues were used to explain the scarcity of settlement finds in Carthage in the period of ca 550-480 BC.[186]

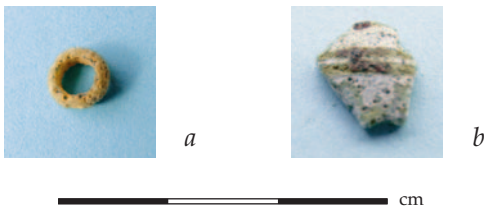


Fig. 42. Fill of septic pit BM04/7453: a) glass bead Cat. 53, b) fragment of glass paste vessel Cat. 54 (photo's UGent/INP).

The scarcity of settlement finds in the relevant period is obvious. A recent inventory of all published settlement contexts has shown that no single context within the not inconsiderable number of 257 Punic contexts can be attributed to the second half of the 6th century BC.[187] Also the number of contexts securely dated to the first half of the 5th century BC is still rather low: only seven out of 257 published Punic contexts. By way of example, the contexts found by the two German teams that worked in Carthage may clearly document this pattern. In the area excavated by the University of Hamburg below the *Decumanus Maximus* (cf. fig. 1), the contexts of 'Phase V' (ca 550-480 BC) are limited to ten rather thin levelling layers in Houses 1-North and 1-South and six similar fillings in the street, mostly yielding relatively few finds (on a total of 1180 contexts, 746 of which belonging to the Punic period). In the excavations of the DAI in Carthage no archaeological contexts dating to the second half of the 6th century BC were found (published), but a context of the first half of the 5th century BC from the Magon quarter contained some residuals of the 6th century BC. It was found in the filling of the Punic House IV, Room 75, and contained fragments of 13 vessels, 5 of which imports.[188] Two elements come to the fore: the context is extremely small and the number of imports within it is considerable.

If one compares this pattern with the typical composition of the Archaic settlement contexts in Carthage, the difference could not be greater. Finds in Archaic contexts are generally counted by the hundreds. Context K 78/68 of House II, Room P57 in the Magon quarter is a good example, dated to the second half of the 7th century BC: more than 211 fragments, of which a large proportion of cooking and food preparation vessels and only a small number of imports.[189] The bellow's pipe (tuyère) fragment in it shows, moreover, that it is probably situated in a (former?) zone *extra muros* of the city, at the seaside fringes of the residential area.

How can this shift from quantitatively rich contexts in the 7th to rather small contexts in the 6th century BC be explained? In comparison with the building practises in the preceding Archaic period, that is to say from the 8th century till the middle of the 6th century BC, the use of household rubbish as filling and levelling material in the preparation of new floors seems to have become rare. Instead, the fillings are now typically thinner and the pavements in the houses have a more permanent character. Consequently, the number of pottery fragments within each filling diminishes in comparison with the contexts of the preceding period.

This has probably all to do with changes in management of the streets and so of the public space. The fact that the street levels now remained rather stable on one level, instead of continuously growing in height because of the uncontrolled disposal of household refuses, would probably have triggered the changes within the houses. In fact, the street level of 'Phase V' (ca 550-480 BC) of the East-Street excavated below the *Decumanus Maximus* by the University of Hamburg (cf. fig. 1) has only been raised slightly in comparison to the 'Layer IVc' level, mainly in order to restore an inclination for better drainage.[190] If the street level stays on more or less the same height and even is consolidated by a stone pavement in the following phase (VI), there is no need for raising the floor levels in the houses with every generation or so, in order to prevent rainwater and other disgusting fluids from running into the houses. It would now have become worthwhile to invest in more permanent floorings (up to that moment, Carthage's floorings consisted of white calcareous material, the ephemeral torba floors). And this is exactly the pattern emerging from the archaeological record. It is with constructions of 'Phase V' in the Hamburg *Decumanus Maximus* excavations that the first permanent mortar pavement has been found (see K. Schmidt, infra).

All in all, one gets the strong impression that at least by the second half of the 6th century BC the city of Carthage established some sort of garbage collecting system. Given the fact that (second half of the) 6th and 5th-century BC levels are so rare in all excavated parts of the city, it is very likely that this garbage and dung collecting was organized *centrally*. One may imagine a system of *koprologoi* or garbage collectors as is attested in the Greek world.[191] The inevitable question would then be: where did one dispose of the collected garbage if not anymore on the streets and in the floor fillings? It is likely that one dumped on the fringes of the inhabited city area, creating levelling layers, on which the further development of the city took place.[192] The new evidence from the Bir Massouda site with its two septic pits shows that at least from the Middle Punic period onwards, Punic houses in the city had been provided with toilet pits. This may in all likelihood imply that at least from then on, a certain distinction would have been made within the whole garbage collecting system. Human faeces was now kept and collected separately in view of its potential use as manure in the horticulture of Carthage's immediate hinterland (in the 'Megara').

4.3 Safe-deposit or cultic depository with construction offerings

Excavation and architecture

H. Ben Romdhane, T. De Schacht & B. Taverniers

The 2003 excavations in Trench 5 started from the Late Punic level. In the centre of the trench, a series of early Roman ('Augustan') walls defined an area of about 2.80 x 3.30 m that during the excavation was designated as 'Trench 5-Area B' (cf. *fig. 1*). Here, a remarkable architectural feature was encountered, which is to be interpreted as either a safe-deposit or strongbox or a cultic depository (*fig. 44*). It dates to the Middle Punic period. The find of an equally remarkable pottery deposit connected with this subterranean box-like structure justifies the presentation of these finds in the present preliminary report.

In the central north-eastern part of 'Area B', the remains of a Late Punic terrazzo pavement were found in situ (BM03/5319; *fig. 43*). The broken surface measured approximately one square meter. To the west and south of this pavement, two Roman robber trenches (BM03/5315 and BM03/5316), running north-south and east-west, had clearly disturbed a large portion of the original Punic stratigraphy next to and below the pavement. They hint at the existence of Punic walls, now robbed out.

Below the terrazzo pavement and its preparation layer (BM03/5323) a rectangular structure appeared. This architectural feature has been documented with context numbers BM03/5324 and BM03/5344. The bordering stones (BM03/5324) to the north and the east still stood upright, whereas the south-western corner (south and west faces) had been robbed out in Roman times (cf. supra). That the northern and eastern sides have been preserved can be explained by the fact that two early Roman ('Augustan') foundation walls sat directly on top of them. These northern and

Fig. 43. Late Punic terrazzo floor BM03/5319 over strongbox/depository BM03/5324+BM03/5344 (photo UGent/INP).

eastern sides each consisted of three El-Haouaria blocks. The stone slabs in the northern face had a clear rectangular shape in their upper parts, whereas the eastern slabs had more triangular tops. Mudbrick walls backed both of these sides. The bricks measured approximately 15 x 25 cm. Of the original cover only one rectangular limestone slab remained, still lying horizontally in the north-western corner (immediately in front of the 'Augustan' foundation wall; Fig. 44). The other, southern covering slabs, on which the Punic pavement originally must have rested, have disappeared, probably in connection with the later Roman robber activities. It could be observed that these slabs had been removed from the south, leaving part of the Punic terrazzo pavement 'hanging' in place. Although the space below the pavement had been filled up with loose soil since, the lack of support for the floor above has resulted in several large cracks in the pavement (*fig. 43*). In view of the two Roman robber trenches to the west and south

Fig. 44. Strongbox/depository BM03/5324 + BM03/5344 (photo UGent/INP).

that probably robbed out Punic walls, it is clear that the box was built in the south-western corner of a room.

The floor of this rectangular box-like structure is composed of a bed of white limestone rubble, on which lay some pebbles (BM03/5346) surrounded by a 6 to 7 cm wide band of green clay (*fig. 44*). Inside the box, on top of these pebbles, a red-brownish filling of max. 28 cm thickness has been documented (BM03/5342). It is in the lower part of this layer, directly on top of the pebbles, that two Punic Painted Ware vessels were found: a plate filled with red ochre and the upper body of a 'table amphora' (*figs. 45-48*). The plate was found in an almost horizontal position with the ochre still in place. Apparently, the amphora had already been broken (intentionally?) in Antiquity, perhaps at the time of deposition. Some loose fragments of this amphora were found in the fill of the Roman robber trenches surrounding the box (cf. supra), suggesting at least some post-depositional destruction. It seems clear from the dimensions of the vessels that the plate accompanied the amphora but did not serve as its lid.

Interpretation

F. Chelbi, R.F. Docter & B. Maraoui Telmini

The interior dimensions of the box are ca 85 x 60 cm. The original interior height of the box is about 45 cm from the rubble floor with pebbles to the covering slab. In view of the reconstructed original height of the amphora (ca 40-50 cm), it is not altogether to be excluded that the box had been used to contain the amphora in an upright position. But had this been the original function of the box below the Punic terrazzo floor? Let us first look at the architectural parallels.

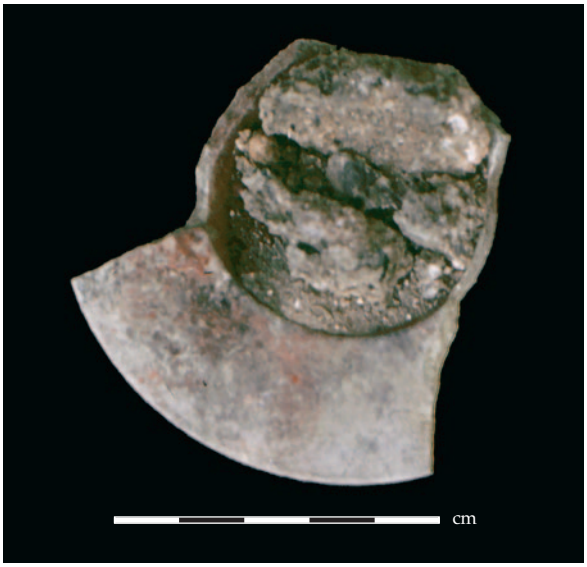


Fig. 45. Local Middle Punic plate with red ochre votive offering Cat. 55, from fill of strongbox/depository (context BM03/5342) (photo UGent/INP).

Fig. 47. Detail of handle shape of Sardinian Middle Punic amphora in Painted Ware Cat. 56, probably from Tharros, from fill of strongbox/depository (context BM03/5342) (photo UGent/INP).

Fig. 46. Sardinian Middle Punic amphora in Painted Ware Cat. 56, probably from Tharros from fill of strongbox/depository (context BM03/5342) (photo UGent/INP).

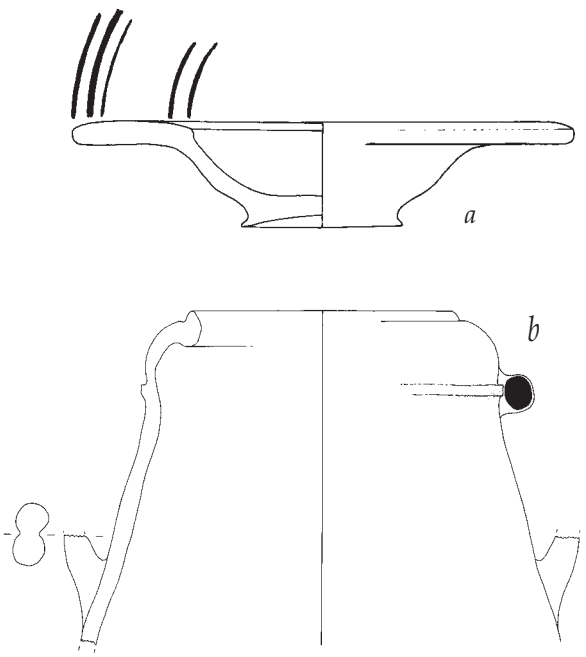


Fig. 48. Fill of strongbox/depository (context BM03/5342): a) local Punic plate Cat. 55, b) Sardinian amphora in Painted Ware Cat. 56 (drawings by B. Bechtold, inked by J. Angenon).

Similar structures have been documented in Carthage in the excavations of the two German teams. In the Magon Quarter, G. Stanzl excavated an 'Unterbodenbecken' below room P32/34, which he interpreted as a 'Tresor' or a cage in which snakes were kept.[193] Farther to the north on the Bir Massouda terrain (cf. fig. 1), the Hamburg team excavated a very comparable structure below a Late Punic terrazzo floor (36 x 21 cm), which has been interpreted as a safe-deposit or strongbox on the basis of a narrow opening in the pavement.[194] Seen in this light, the new stone box below a Punic terrazzo floor found in Trench 5 may be interpreted as a safe-deposit or strongbox too.

There are other arguments, though, which may link at least the new subterranean box with a cultic function from the start. The deposition of well-rounded pebbles on the floor is highly suggestive in this respect; one is reminded of the find of such pebbles in a Middle to Late Punic temple at Carthage (Rue Ibn Chabâat; cf. fig. 1),[195] the sanctuary at Kerkouane and the tophets at Carthage, Hadrumetum and El-Hofra.[196] Kerkouane gives also a second argument for a cultic interpretation. The courtyard of the same sanctuary contained a Roman box-like 'cachette' filled with lamps dating till within the 3rd century AD. This installation and the apparent votive offerings had been placed there by the local (Neopunic) population, who would have remembered the religious content of the spot, even some 500 years after the final destruction of Kerkouane by the troops of Attilius Regulus in 255/254 BC.[197] A still better comparison is found in Punic-Mauretanean Lixus (Morocco, ca 175/150-80/50 BC). Here, a stone box with interior dimensions of 1.05 x 0.45 x 0.48 m had been built in below the floor of a room. It contained a cylindrical Catalonian kalathos of the second or third quarter of the 2nd century BC, of which remarkably also the base was missing (cf. Cat. 56, *figs. 47*, *48b*), which may have contained organic materials (food offerings?).[198]

But how do we explain, then, the two vessels in the lower fill of the box? The strongbox or cultic depository/foundation deposit had probably been constructed in Middle Punic times. There are two possible lines of interpretation. After the floor on top of it had been renovated or replaced by the present one in Late Punic times, the box was given up as such and used instead as a recipient for votive gifts and at the same time filled in with red-brownish earth containing few other pottery fragments (BM03/5342). Alternatively, the box would already in Middle Punic times have been intended exactly to contain these votive gifts, which in view of the date of the vessels (infra) may well be the most plausible option.

Construction offerings[199]

B. Bechtold

Two relatively well-preserved pottery vessels have been found in the fill of the strongbox or cultic depository (*figs. 45-48*). In addition to these vessels, which are published here as a possible foundation deposit, the small archaeological context BM03/5342 contained five fragments of local Plain Ware, two fragments of closed forms of local Painted Ware decorated with violet lines, and one body sherd possibly of a closed form of Levantine fabric.

The discussion on the find circumstances of the disturbed deposit context BM03/5342 (supra) shows that the interpretation of the archaeological data offers only two possible lines of interpretation:

1 The two vessels Cat. 55-56 had been placed in an already existing box-like structure of the Middle Punic period (context BM03/5324 and BM03/5244; *fig. 44*) at a relatively late moment, viz. in the Late Punic period. This may have happened in relation with the renovation of the terrazzo floor (context BM03/5319; *fig. 43*). The amphora Cat. 56 may well have been broken intentionally.
2 The two vessels are contemporary to the box-like structure (context BM03/5324 + BM03/5344; *fig. 44*) and had been intended as votive gifts related to the construction of a Middle Punic building, the walls of which had already been robbed out during the Early Roman period (supra).

The amphora has a height of approximately 40-50 cm and may, hence, well have been placed in an upright position within the box. Given the fact, however, that its lower part and bottom are missing, it seems more likely that the vessel has been broken intentionally at the occasion of its deposition.

Independent of the absolute date of deposition, in the Middle Punic or Late Punic period, the two vessels seem clearly linked to the sphere of votive gifts or foundation deposits. K. Mansel recently discussed Phoenician-Punic foundation deposits, publishing six of them from the nearby Hamburg excavation below the *Decumanus Maximus* (cf. *fig. 1*).[200] Here, the phenomenon of placing construction offerings is attested for almost the whole Punic period, from the late 8th till the second quarter of the 2nd century BC ('layers IIb-VIIIa'). The six contexts represent foundation deposits, excavated

inside private houses, near or below the walls.[201] Most deposits consist of one vessel only, one deposit of two vessels. These may be slightly damaged, but generally seem to have retained their original functions. The nine pots studied by Mansel are typical of the Phoenician-Punic pottery repertoire: a bowl, a beaker, a plate and a lamp. Closed shapes are in the majority, though: jugs, table amphorae and dipper juglets. One imported jug ('bouteille') of Levantine fabric has been identified,[202] the other vessels are of local clay. In two cases the vessels appear to be clearly older than their stratigraphical position, viz. the moment of their deposition would imply. Among the foundation deposits identified in the nearby Hamburg excavation no indication of animal offerings could be noted. In one case, ash found within a bowl has been analysed pointing to burnt plants viz. an incense offering.[203] Most of the closed vessels would have contained liquids, however, alluding to libations. Mansel draws attention to the fact that Carthaginian foundation deposits are so heterogeneous. This may be due to the private character of the rituals involved in their deposition, stipulated by the individual building contractors. This is in sharp contrast with for example an extremely rich foundation deposit in the Phoenician temple of Kition (on Cyprus), clearly a more public or official building.[204]

Deposit BM03/5342 exactly fits the characteristics of Punic foundation deposits analysed by Mansel. The composition of the context, an imported table amphora[205] accompanied by a small plate of local fabric of the same date (early 4th century BC; infra Cat. 55-56), may be compared more or less to 'Bauopfer 5' of the Hamburg excavations. This construction deposit consists of an almost intact table amphora and a broken jug, both of local clay. They have been found within the preparation level of a Middle Punic pavement near the base of a wall and are attributed to 'layer VIIb' of ca 390-250 BC.[206] The present deposit should date to the (first half of the) 4th century BC. The table amphora may have contained liquids.

In the case of the ensemble of context BM03/5342, the particular detail of lotus flowers - referring to rebirth and immortality - in combination with other vegetal patterns may be related to the original significance of the offering. It should be borne in mind, though, that this old Egyptian symbol has not necessarily the same meaning in any given archaeological context; one is reminded in this case of similar symbols on two amphora sherds in a normal levelling layer on the Bir Massouda site.[207] Only in its combination with the clear deposit of red ochre on the small plate (Cat. 55; *fig. 45*) and perhaps the association with the pebbles (supra, *fig. 44*), is it possible to link the motif in some way with a cultic ceremony. The colour red symbolises life and power in Antiquity, and its use - especially in painting by means of red ochre and cinnabar - would make a deceased immortal (see also below).[208] Its frequent application in Carthaginian cemeteries has been studied thoroughly by H. Benichou-Safar, who suggests a Libyan or Libo-Phoenician influence on Phoenician-Punic religious behaviour.[209] Both elements together strongly suggest a religious meaning, related to rebirth and/or immortality for the deposit of context BM03/5342. Foundation deposits are generally interpreted as rituals or ceremonial acts in advance of construction or structural alterations of buildings in order to secure their successful accomplishment and future protection.[210] Seen in this light, the two symbols in this deposit, which are linked to rebirth/immortality, may either relate to the floor (in case of hypothesis 1) or the building (in case of hypothesis 2), below which they have been found.

Catalogue (figs. 45-48)

PUNIC PAINTED WARE, LOCAL FABRIC ('KTS CLAY STRUCTURE')

Cat. 55: BM03/34721: 5 joining fragments of a plate of Vegas' form 1.3 (figs. 45, 48a)

Clay fairly hard fired, pale yellow (5 Y 8/3); pale yellow scum on inside and outside; reddish brown paint (5 YR 5/3) on top of rim (5 lines). Traces of primary firing on rim. Diam. rim 12 cm, diam. base 4.2 cm, H. 2.8 cm.

The plate contained a good quantity of a red substance, which has been analysed by H. Koens and I. Joosten and was shown to be red ochre (*fig. 45*; infra).

Cat. 55 represents a variant of the Middle Punic plates of Vegas' form 1.3, which is of Phoenician origin and in its latest evolution, during the 5th and 4th centuries BC, is characterised by a large rim and a very reduced tondo.[211] The best morphological comparison for Cat. 55 was found in the nearby excavations of the University of Hamburg below the crossroads of *Decumanus Maximus* and *Cardo* X (cf. *fig. 1*).[212] It has a deeper tondo than the present piece and has been found in a context of the second quarter of the 2nd century BC ('stratum VIIIa1'), where it must be residual. The small plate from the Hamburg excavations does not present smoothed surfaces anymore, which is characteristic of open vessels of local Plain Ware

till the last quarter of the 5th century BC.[213] Another indication for a dating towards the late 5th or first half of the 4th century BC is the presence of a sort of ring base, a morphological element introduced into the local repertoire as a result of Greek influence. Within the abundant stratified finds' material yielded by the Hamburg excavations, it does not occur earlier than 'layer VIIb', when it is introduced as a substitution for the 'pseudo-ring base'.[214] This too implies a date from the beginning of the 4th century BC onwards for the present piece.

A second parallel for Cat. 55 has been published from the DAI excavations in the Magon Quarter.[215] It was found in a sandy deposit below a second half of the 4th-century BC pavement in Punic House VI, which contained mainly 6th-4th-century BC pottery. The rim diam. is larger than the present piece (15 cm) and the rim itself is more inclined towards the tondo, the base is simply concave.

The lack of a smoothed surface and the typical concave base, which may have intended to imitate a sort of ring foot, in addition to the two comparisons from other Carthaginian Middle Punic deposits, suggest a chronology between the late 5th and the middle of the 4th century BC for the present plate.

PUNIC PAINTED WARE, IMPORTED FABRIC

Cat. 56: BM03/42592, 37 fragments of the upper body of a table amphora of Cintas' Form 255 (figs. 46-47, 48b)

Clay hard fired, very pale brown (10 YR 7/3), with some small vacua and round reddish brown particles, many large white particles and some golden mica on the surface. Surfaces very pale brown (10 YR 8/3) with reddish brown paint (2.5 YR 5/4) on exterior. Diam. rim 16.6 cm, max. preserved H. 20.9 cm.

Description of decoration (from rim downwards): a large horizontal band on the rim's exterior, two horizontal lines on the shoulder, slanting stripes on ridge. The handle zone is decorated on both sides of the vessel with three much schematised lotus flowers, each consisting of three hanging petals of rounded elongated shape (*fig. 46-47*). Downward curving stems, starting at the bases of the petals, link the flowers. Immediately below the lower handle attachment runs a horizontal stem with myrtle or laurel leaves. The lower part of the body has been decorated with a wide horizontal band, framed by two horizontal lines. At least the vertical surfaces of the upper attachments, shaped as rotelle, have been painted (*fig. 47*). Possibly the vertical double-reeded handles had been painted with dots or drops too.

The amphora from the foundation deposit finds a nice comparison in a painted vessel from the Ard el-Khéraïb necropolis (Carthage), dated to the 4th century BC.[216] This vessel is decorated with horizontal wavy lines (stem) to which ivy leaves attach. Several other 'table amphorae', used as urns and characterised by richly painted decorations, were found by A.L. Delattre at an unidentified locality at the Byrsa hill.[217] They consist of either large widely spaced lotuses or lotus/myrtle leaves linked by a wavy horizontal stem in the handle zone. The zones below the lower handle attachments have invariably a repetitive scheme of horizontal lines and bands.

In a recent article, E. Cotza discusses vegetal patterns painted on 'table amphorae' with angular or convex shoulders from both the tophet and the metal-working area of Muru Mannu at Tharros. The shape of these local amphorae from Tharros is clearly of Carthaginian origin, as Cotza observes.[218] It corresponds in Carthage to D. Harden's class F, 'oval amphora with plain and angular or convex shoulder, vertical handle on shoulder', especially 'subtype a'.[219] These amphorae have been found in the Tanit II stratum of the tophet, dated to ca 700/650-350/300 BC, but 'subtype a' possibly dates to the 7th-5th centuries BC. From a morphological point of view, Cat. 56 corresponds well to Docter's subclass 'Karthago 3 B5', too.[220]

According to Cotza, amphorae with angular or convex shoulders became the commonest type of urn in the tophet of Tharros during the 4th century BC. Part of these had been richly painted with vegetal patterns, which she interprets as Greek influence.[221] It seems clear that all vegetal patterns identified on Cat. 56 and especially their combination nicely fit the ornamental repertoire, which is so characteristic of the 4th-century BC amphora workshop of Tharros. Also when considering the fabric of the present vessel, a provenance from Tharros becomes quite likely.[222]

To the best of my knowledge, no 4th-century BC Painted Ware vessels from Sardinia have been identified at Carthage up to this moment (but see now above, Cat. 21, *fig. 25g*). Phoenician transport amphorae from Sardinia, however, have been imported to Carthage from the second half of the 7th century BC onwards and especially during the 6th century BC.[223] A small number of amphorae of possible Sardinian fabric have been found in second half of the 5th-first half of the 4th-century BC deposits, excavated below the crossroads of *Decumanus Maximus* and *Cardo* X (cf. *fig. 1*).[224] Two more amphora fragments of Ramón's type

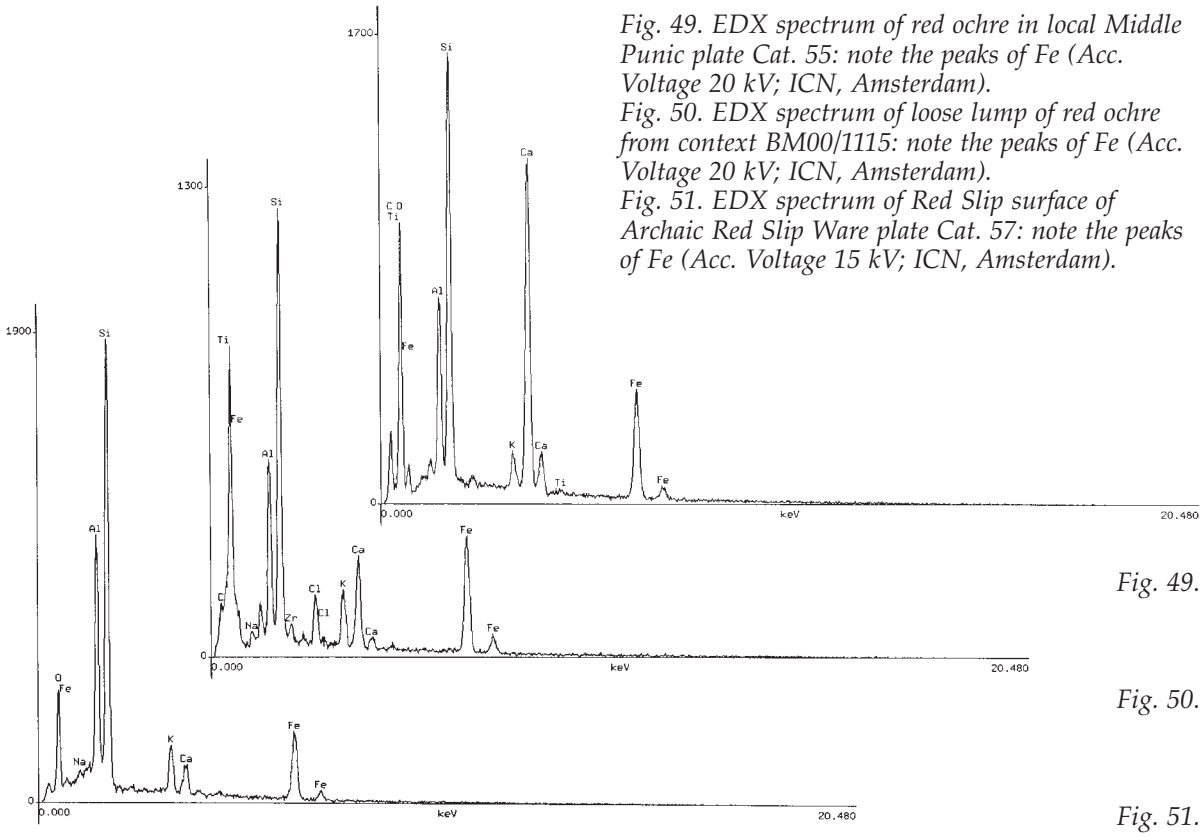


Fig. 49. EDX spectrum of red ochre in local Middle Punic plate Cat. 55: note the peaks of Fe (Acc. Voltage 20 kV; ICN, Amsterdam).
Fig. 50. EDX spectrum of loose lump of red ochre from context BM00/1115: note the peaks of Fe (Acc. Voltage 20 kV; ICN, Amsterdam).
Fig. 51. EDX spectrum of Red Slip surface of Archaic Red Slip Ware plate Cat. 57: note the peaks of Fe (Acc. Voltage 15 kV; ICN, Amsterdam).

Fig. 49.

Fig. 50.

Fig. 51.

T-4.1.1.3 of probable Sardinian provenance come from secondary contexts in the University of Amsterdam excavations on the Bir Massouda site, dated by comparisons to the late 5th-first half of the 4th century BC.[225] In fact, it is exactly in the late 5th and first half of the 4th century BC that a rapid increase of imported amphorae from 50% to 75% is visible, on a total of some 160 identified amphora fragments in the University of Hamburg excavations below the *Decumanus Maximus*.[226] Within these, Sardinian vessels form a relatively small but stable number. The hitherto limited indications for Sardinian vessels in Middle Punic Carthage may well be a question of insufficient knowledge of the precise clay characteristics with scholars working in Carthage (but see now also Cat. 21, *fig. 25g*). It seems, therefore, worthwhile to pay more attention to ascertaining the exact origins of such material.

With regard to the decorative patterns used on Cat. 56 (*figs. 46-47*), the motif of the lotus flower, symbol of Egyptian origin and alluding to rebirth after death, has already been found on three local Painted Ware fragments in the excavations at the Bir Massouda site. One of these was found in secondary position in a context of the early Imperial period, the other ones belong to a layer dated within the first thirty years of the 4th century BC.[227]

Cotza argues that the inspiration of decorative motifs derived from the East Greek repertoire reaches Sardinia during the 4th century BC through Carthage, which functioned as a sort of distribution centre for the West.[228] If the suggested Sardinian provenance of 'table amphora' Cat. 56 proves to be correct, it may be used in combination with the transport amphorae of possible Sardinian fabric to show that commercial and cultural contacts between the North-African metropolis and Sardinia were not one-way only. Apparently, some commodities produced on the island had been in demand at Carthage during the late 5th and first half of the 4th centuries BC. This historical period corresponds, in fact, to one of the most powerful and flourishing periods of the North-African city, expanding its interests in Sardinia. It is much clearer documented in the pottery repertoires by the impressive increase of imported Fine Wares from Athens, together with considerable amounts of West-Greek and Corcyrian, Corinthian B type wine amphorae (cf. *fig. 25a*).[229]

Red ochre from the plate

I. Joosten & H. Koens

The red substance found on the Middle Punic plate Cat. 55 in the deposit (*fig. 45*), described above, has been analysed at the Netherlands Institute for Cultural Heritage (ICN, Amsterdam).[230] It consists of a finely ground powder, which has become compact in time. Upon its discovery, the plate had been lifted with its contents, put in a plastic bag and for better protection stored in a carton box. Apart from taking a digital photograph, the vessel has hardly been manipulated thereafter. At the laboratory of the ICN, the red contents of the plate (BM03/34721) were analysed by means of SEM/EDX (*fig. 49*). Apart from that, a loose lump of the same material from context BM00/ 1115 excavated during the University of Amsterdam excavations on the Bir Massouda site in 2000 has been analysed in the same way (*fig. 50*).[231] The two samples yielded almost identical results. The spectra of elements show the presence of iron (Fe), aluminium (Al), and silicium (Si) (*figs. 49-50*). It seems clear that the composition of the red substances is iron oxide (Fe_2O_3), better known as hematite. In both cases, one is clearly dealing with natural red ochre.

Provenance of the ochre and its symbolic context

H. Koens

Ochre, in its natural state occurring mainly in two colours, red and yellow,[232] has always been a much desired and sought after pigment. Upon establishing the fact that the Carthaginian plate contained natural red ochre, the question came up what the origin of this base material could have been; is it local or had it been imported?[233]

In the late 19th century, the Dumble geological survey inventoried all natural deposits of ochre in the area around Carthage.[234] The descriptions of the deposits, lying in a range of no more than few kilometres from Carthage, read as a manual of how to look for ochre.

A report of Charlette SA lists more deposits of ochre in Tunisia, mainly in the South-West, occurring in different shades of red: Djerba (pink), Douz (light pink), El Borma (red), Ksar Ghilane (red), Kriz (pale red), and the Large Eastern ERG (red).[235]

Seeing that ochre was still available in the surroundings of Carthage and on many other places in Tunisia in the late 19th century - in large quantities and in many different colours - one may reasonably assume that the situation in Antiquity

Fig. 52. Red Slip Ware plate fragment Cat. 57; underside with Red Slip and Plain Ware, smoothed surface (photo UGent/INP).

Fig. 53. Red Slip Ware plate fragment Cat. 57 (drawing by L.P. Dupiêd, inked by J. Angenon).

would not have been different. More probably the deposits would even have been richer and more numerous. All the ochre deposits are easy to mine and most often lie just beneath or even at the surface. One may, therefore, conclude that the intrinsic value of (red) ochre would not have been very high for those having access to it. But does this hold for the symbolic value as well? And did the Carthaginians have unlimited access to these deposits?

To start with the latter question, it seems clear that by the Middle Punic period, at the time the plate with red ochre discussed above had been deposited, the Carthaginians must have controlled a large part of the surrounding territory. When they founded their colony, though, the situation may have been different. Tradition holds that they bought only a small portion of the land of the native Libyans, and even had to compensate them on a regular basis by paying 'tribute', probably till the second quarter of the 5th century BC.[236] Also archaeologically there is no hard evidence for Carthaginian penetration of the immediate hinterland till the 6th century BC.[237]

As for the first question, the symbolic value of (red) ochre, the situation may be completely different from that of the intrinsic value. Colour symbolism is one of the symbolic frameworks used extensively by contemporary societies to convey information and abstract messages through material objects. Ethnographic data document the worldwide use of carefully chosen colours and patterns in for example body decoration, ritual,

and practical and social contexts. Red in particular has a symbolic significance that crosscuts cultural boundaries - often the colour is associated with life, success, and victory.[238]

Preliminary thoughts on red ochre and Phoenician Red Slip Ware

I. Joosten & H. Koens

As the results of the plate's contents and the loose lump from Trench 1 proved to be so clear and additional study showed that the red ochre in question may have been extracted in the near vicinity of Carthage, the suggestion came up that perhaps also the typical Phoenician-Punic Red Slip Ware had been produced with the same material. To test this supposition, a rim fragment of a local Red Slip plate from the excavations (Cat. 57; *figs. 52-53*) has been subjected to EDX analyses (*fig. 51*). The results of the Red Slip surface were surprisingly identical with the red ochre results (cf. figs. 49-50).

The clay core of the fragment contained the typical clay elements Calcium (Ca), Silicium (Si) and small amounts of iron (Fe) and aluminium (Al). The Red Slip surface of the fragment consisted of a bright red layer, containing the same elements as the clay core with extremely high values for iron (Fe) and aluminium (Al) as well as silicium (Si) in the spectrum (*fig. 51*). The orange/light red surface on the plate's underside, however, also showed the same elements as the clay core with lower values for iron (Fe) and aluminium (Al).

When the spectrums of the red ochre and the exterior Red Slip layer of the rim fragment are being compared, they turn out to be exactly matching from a qualitative point of view. It is, therefore, beyond doubt that the Carthaginian potters, who produced the typical Red Slip Ware, used red ochre, possibly from the same sources as that found in the Middle Punic votive plate Cat. 55 (*fig. 45*) and the loose lump from Trench 1. After the vessels had been turned on the wheel using clays that are poor in iron, they were left to dry for some time. Thereafter, the leather hard vessels were (partially) covered with a slip consisting of a very much diluted clay mass and a certain amount of grounded up red ochre.[239]

The earliest finds from the Carthaginian settlement show that the local potters had been able to produce the qualitatively superb Red Slip Ware almost from the start (*fig. 52*). This leaves earlier observations of S. Lancel obsolete, who, referring to studies of Cintas, and based on the necropolis material of the late 8th century BC onwards, states that 'there was no doubt that these vessels coated with red slip had been imported from Phoenicia, the first potters working in Carthage having lacked the ability or knowledge to carry out this technique for finishing the vessels.'[240]

PUNIC RED SLIP WARE: LOCAL FABRIC ('KTS CLAY STRUCTURE')

Cat. 57: BM04/42968 (context BM04/4400), rim fragment of Red Slip Ware plate of A. Peserico's type P1 (figs. 52-53)

Fairly hard fired clay yellowish red (5 YR 5/6); surface light brown (7.5 YR 6/4), Red Slip (10 R 4/6), horizontally burnished. Diam. rim 18 cm; preserved H. 1.4 cm.

This rim has a mouth plate width of less than 3.5 cm and clearly belongs to Peserico's type P1.I or P1.II.[241] Type P1 finds its main distribution in contexts of the second half of the 8th and the first half of the 7th century BC. Although it can still be found (residually) in contexts of the following one-hundred years, Peserico pleas for a production till the middle of the 7th century BC.[242] The upper surface has been covered with Red Slip in a way stamped by Peserico as decoration type a.[243]

5 RESULTS: LATE PUNIC PERIOD

5.1 Corridor with tile floor

Excavation

V. De Clercq, T. De Schacht, E. Deweirdt & L. Verdonck

In the central part of Trench 2, a Late Punic tile floor has been found in situ at a level of 8.93 m above sea level (BM03/2313+BM04/2413). It has been excavated in two campaigns (2003-2004).

The floor consisted of square terracotta tiles of 8 x 8 x 3 cm and has been preserved over a distance of ca 1.80 m, running north-south (*figs. 54-55*). The maximum width of the floor is ca 0.80 m. Although bordering walls to the east and the west have not been preserved, it may be suggested that the floor belonged to a corridor. The floor had been laid out on a dark grey, sandy preparation layer (BM03/2331), below which a light grey layer has been preserved (BM03/2332).

Two metres to the south - on exactly the same level as the tile floor - a torba floor of crushed limestone (BM04/2414) has been found. Its whole surface was blackened and showed traces of heavy fire, which is in all likelihood to be associated with the 146 BC Roman destruction of Carthage.

Fig. 54. Late Punic terracotta tile floor in Trench 2, viewed from the north (BM03/2313+BM04/2413) (photo UGent/INP).

Fig. 55. Part of Late Punic terracotta tile floor in Trench 2, viewed from the south (BM03/2313 + BM04/2413). Loose tiles in secondary position in post-Roman robber trench fill BM04/2415 + BM04/2416 (photo UGent/INP).

The relation between the tile floor and the torba floor level could not be further investigated. The torba floor has an irregular shape and has been preserved only incompletely. To the north of the torba floor, a ca 0.90 m wide post-Roman robber trench separated the two floor levels. It had clearly disturbed the original floor and strata and was found filled with a dark earth (BM04/2415 and BM04/2416), containing also some tiles (*fig. 55*).

Under the greyish fill of this robber trench, a Roman foundation wall (BM04/2430) was revealed. It is not to be excluded - but could not be confirmed - that this Roman wall lies in fact on top of a Punic predecessor, which once divided two spaces, one with the torba floor in the south and one with the terracotta tile floor (corridor?) to north.

The tile floor was covered by a thick, brown sandy layer with building debris (BM03/2308, BM03/2312 and BM04/2412), consisting mainly of destruction material of the Late Punic city. This layer originates in the Roman destruction of Carthage in 146 BC but must have been reworked various times. It contained among other things two coins of Byzantine date, one of which a half *follis* of Heraclius (AD 610-641), struck at Carthage.[244] The Punic tile floor had been damaged in the Medieval period or in sub-recent times, since the south section of Trench 2 in 2003 clearly showed a fill of a robber trench with loose tiles of the floor at much higher levels (ca 9.20 and 10.70 m above sea level) and also in the robber trench discussed above tiles of the floor were documented (*fig. 55*). In almost all cleaning contexts and surface levels of Trench 2 from the campaign 2000 onwards, tiles of this floor turned up.

The tile floor

K. Schmidt

The find of a floor of square terracotta tiles in Trench 2 is of considerable importance for our knowledge of the *pavimenta punica*.[245] It is quite rare to find terracotta floor tiles in their original layout over such a large surface (*figs. 54-55*). Due west of this trench, in Trench 1/7, a second terracotta tile floor was found in the summer campaign of 2004, but this time only one hexagonal tile remained in situ (BM04/7497, with dowelled tongue system, *fig. 56* and infra). As the other examples cited below, it may well be dated to the 3rd century BC. In all excavation campaigns, more loose terracotta tiles of this type have turned up in residual positions, that is to say in later levels containing Punic destruction material.

Fig. 56. Hexagonal terracotta floor tile with doweled tongue system BM04/7497 in situ; covered by Late Punic drain BM04/7494 (photo UGent/INP).

The first Punic mortar floors turn up already in the early 5th century BC and mosaics of stone and terracotta tessellae in the late 5th or early 4th century BC.[246] Floors made of terracotta tiles seem to be a later development within the *pavimenta punica*; the first occur in contexts of the first half of the 3rd century BC. As the mosaic floors with terracotta tessellae (*opus figlinum*), the terracotta tile floors seem to be used preferably in rooms that were subject to constant and heavy wear, like corridors and small courtyards viz. light wells.

On the basis of the present documentation, this type of floor is to be considered as relatively rare. It is for example not surely attested within the wide spectrum of floor types in the Late Punic Byrsa Quarter ('Quartier Hannibal') dated to the late 3rd century till 146 BC,[247] and also among the Middle and Late Punic floors in the Magon Quarter the type is not mentioned.[248] A pavement with rectangular (?) tiles has been excavated in a corridor of a Late Punic house in Carthage Dermech on the Terrain Clariond (3rd century BC).[249] In the area excavated by the University of Hamburg in the north of the Bir Massouda terrain (cf. *fig. 1*), a pavement of hexagonal floor tiles has been found in situ, which may very well have belonged to a corridor of a Late Punic house (about the middle of the 3rd century BC; cf. *fig 56*).[250] The same hexagonal tile shape is also attested, next to lozenge-shaped and rectangular ones, in Kerkouane. These pavements can be dated to the first half of the 3rd century BC at the latest.[251]

At the edges and lower sides of most of the terracotta tiles mortar remains in various thicknesses could be observed, which means that they had been set mostly in a mortar bedding. Sometimes, however, a loamy earth layer sufficed, as for example in the floor excavated on the Hamburg site and also in the present one from the Bir Massouda site. The hexagonal and partly also the lozenge-shaped terracotta floor tiles show a very sophisticated dowelled tongue system, by which a very neat, and especially mortar-free seam became possible (*fig. 56*).[252] It is very likely that this particular technique, which is unknown in Greek and Roman architecture, is a Punic invention.[253] Although the tiles of the new terracotta floor in Trench 2 of the Bir Massouda site lack such sophisticated joints, the principle of laying a tile floor itself is a novelty that finds only rare contemporary parallels in the ancient world.

6 PROSPECTS

6.1 Site consolidation and 'mise-en-valeur'

F. Chelbi & R.F. Docter

The Bir Massouda terrain measures roughly 80 by 170 metres, so about 1.4 hectares (*fig. 1*). In the grid system of Roman Carthage it covers at least two complete insulae (S110 and S111), as well as part of two insulae to the south of *Decumanus* 1-South. In the far north of the terrain, it is bordered by the principle Roman east-west-road, the *Decumanus Maximus*. Three Roman cardines run from north to south over the site: *Cardo* IX-East, partially overlapping with the TGM-railroad, *Cardo* X-East, and *Cardo* XI-East, which runs exactly to the side of the Avenue Habib Bourguiba.

The archaeological investigations on this terrain had been governed since 1998 by the prospect of future building plans. The various teams working on the site had, thus, been putting all efforts in documenting the relevant remains, either in getting a coherent plan as in the case of the ecclesiastical complex excavated by the University of Cambridge, including the lifting of most of the mosaics (see elsewhere in this volume), or in grasping the site's development over a long period of Carthage's history as in the case of the excavations of the University of Amsterdam (2000 and 2001).[254] The Tuniso-Belgian investigations since 2002 have successfully tried to focus on the site's development in the Punic period, more than had been possible in the fieldwork of the University of Amsterdam.

In 2004, it has been officially decided to cancel the initially foreseen building plans on the Bir Massouda site. Although this decision is to be welcomed from an archaeological perspective, it places some unexpected pressures on the management of the Conservation du Site de Carthage

and some moral obligations on the excavators. Every site within the confines of the Archaeological Park of Carthage has to be given some protective measures and a 'mise-en-valeur'. In close cooperation with the Institut National du Patrimoine, the Agence de Mise en Valeur du Patrimoine et de Promotion Culturelle has now built a permanent fence, closing off the site in the west towards the Avenue Habib Bourguiba (*fig. 1*). The former southern fence had already been built in the course of the construction of the new Cultural Center of Carthage (former 'Cinéma de Carthage'). At the same time, a start has been made with carrying off the immense spoil heaps of six years' continuous excavation on the site. It is foreseen that the terrain will be brought back to its level at which it had been preserved till around 1970. Of all archaeological features encountered on the site, three come to the fore as particularly worthwhile in consolidating and presenting to the public. Apart from the ecclesiastical building excavated by the University of Cambridge (see elsewhere in this volume), especially the Archaic and Middle Punic defensive walls and the cremation pits of Carthage's earliest necropolis deserve a 'mise-en-valeur'.

In the northern part of the Bir Massouda terrain, the former excavation area of the University of Hamburg at the crossroads of *Decumanus Maximus* and *Cardo* X-East (cf. *fig. 1*) has already been given a 'mise-en-valeur' by the German architect J.M. Klessing (*fig. 57*).[255] The remains of an Archaic to Late Punic residential quarter, including a completely preserved Middle Punic temple of the 5th century BC (now covered by a permanent roof) have been consolidated. Due to several unforeseen circumstances, this archaeological ensemble could still not be made accessible to the public. It is expected that with the consolidation of the ecclesiastical complex, the Archaic city wall and the necropolis it will soon become open to the public. An entrance to this ensemble is already foreseen in the new fence, exactly on the trace of the *Decumanus Maximus*.

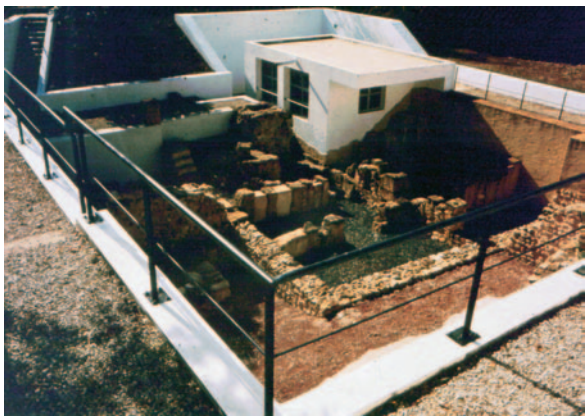


Fig. 57. Example of 'mis-en-valeur' on Bir Massouda site: excavations by the University of Hamburg below the Decumanus Maximus (cf. fig. 1) consolidated by J.M. Klessing (photo by H. Mundt, by kind permission of H.G. Niemeyer).

6.2 Finds processing

L. Fersi & K. Schmidt

The bilateral excavation campaigns of the years 2002-2004 yielded 777 archaeological contexts: soil marks, levelling layers, filling deposits, and architectural elements like floors and walls. About two-thirds of these contexts (some 500) contained finds, mostly pottery in fairly large quantities. During the field campaigns, a find laboratory has been in operation, in which already some 150 of these 500 contexts could be inventoried. Of the remaining 350 contexts with finds, some 160 come from the two Trenches 3 and 7 (*fig. 1*); these will be inventoried and analysed by B. Maraoui Telmini in connection with her habilitation project. The other 190 contexts will be inventoried in the study campaign of 2005, which is scheduled for July and August.

The pottery, which makes up for the bulk of the material, has been subject to two different ways of treatment after the regular finds processing procedure (washing, drying and packing up of the finds). Depending on the stratigraphical homogeneity of the context, a distinction has been made between primary and secondary contexts, mostly already in the field. The latter contexts are the ones containing clear recent and sub-recent inclusions, as well as all Late Antique robber trench fills with material dating to the whole chronological range of Carthage's habitation history (8th century BC till 7th century AD). These secondary contexts have been inventoried and entered in the database, selections of their contents have been kept and registered (given an inventory number), and the bulk of their contents has been discarded in a specially selected place on the Bir Massouda site (a previously excavated Late Roman cistern; *fig. 1* 'cistern dump'). The primary contexts, on the contrary, have been inventoried, registered, and kept in full. Only after specialists' study of the pottery in such contexts, the majority of the non-diagnostic sherds could be discarded. Part of this close analysis of the contexts has already been done during the campaigns.

In 2003 and 2004, a large-scale sieving programme has been in operation.[256] It had two aims. In the first place, it was hoped to find even the smallest fragments of cremated individuals, whose graves had been cleared out already in Antiquity. In the second place it would enhance the chances of finding more, larger and better samples of animal bones from homogeneous (primary) contexts. Of each context two buckets of earth were collected for sieving. Only in the case of primary contexts, which during excavation showed to be evidently rich in bone and botanical remains, larger samples have been taken; in some cases even the entire context has been sieved, as the septic pit's content BM04/7453 (supra).[257]

In the field, several finds' categories have already been subject to a different processing procedure: coins, metals, plaster, faience, glass, charcoal, worked stone, inscriptions, and bones. From the field to the finds' laboratory, these categories have been kept separately from the pottery (see also infra). The finds of the 2002-2004 campaigns on the Bir Massouda site are stored with the finds of the excavations of the University of Amsterdam (2000-2001).

6.3 Publication trajectory

F. Chelbi, R.F. Docter & B. Maraoui Telmini

This is the last of two preliminary reports in the English language. All efforts are now directed to the final publication, in which a representative selection of the contexts will be included. The publication team consists of both participants of the field campaigns and external specialists. Here, we mention three large finds' categories, which are studied separately from the contexts' pottery, but of which the results will be included in the final analysis of the excavation.

1 *Archaeozoology and archaeobotany*. Large numbers of animal bones from stratified contexts have been collected by hand. In the campaigns of 2003 and 2004 also very extensive sieving procedures have been undertaken in order to obtain a better picture of the consumption pattern of the Carthaginian town population from the 8th century BC till the 7th century AD. A strong accent is placed on the contextual analysis of the bone material.[258] The faunal remains found in the 2002 and 2003 campaigns have in the meantime already been analysed and inventoried by A. Alen and W. van Neer (Brussels). The remaining bone fragments of the 2004 campaign will be studied in 2005. S. Roudesli-Chebbi studies the human remains that are found within the bone sample (see also supra). J.-P. Pals of the University of Amsterdam is responsible for the analysis and publication of the botanical remains from the sieving samples.
2 *Metals and metallurgy.* During the field campaigns of 2002 till 2004, 359 metal objects and fragments were found. The inventory of these, the description and partly the conservation are in the hands of H. Koens of the University of Amsterdam (see also supra). Prior to any manipulation and further treatment, the metals have been X-rayed by R.J. Jansen, still in their paper envelopes, at the Department of radiology of the Academic Medical Centre of the University of Amsterdam. A selection of these metals has been analysed additionally, partly in co-operation with I. Joosten of the Netherlands Institute for Cultural Heritage (see also supra).
3 *Coins*. The numbers of coins found in the Carthaginian settlement are generally rather low, especially in Punic layers. Moreover, we are only dealing with bronze coins that are generally in a very bad condition. In the small and short campaign of 2002 only 12 coins were found. In the more extensive and longer campaign of 2003 even no more than 14 coins came to light. These have in the meantime been cleaned professionally to allow their determination. These determinations by S. Frey-Kupper have been concluded. The summer campaign of 2004 yielded an unexpectedly high number of 252 coins. This has mainly been caused by a concentration of Byzantine and Vandal coins, found dispersed on top of and partly trodden into a torba floor in Trench 7. Adjacent robber trench fills and disturbed contexts contained relatively high numbers of the same denominations, so that it is very likely that these too originate in the same context. In view of the Punic accent of the bilateral investigations and the restricted budget, the professional cleaning of this wider Byzantine 'coin hoard' (215 pieces) had to be postponed till additional funding has been found.[259] The other 37 coins have already been cleaned by Archeoplan in Delft (The Netherlands). The Punic bronze coins from the excavations are analysed (non destructively: fast Neutron activation by Cyclotron) in the Centre Ernest Babelon of the CNRS in Orléans by J.-N. Barrandon in order to determine their metallurgical compositions. The results of the analyses of five coins, which came to light during the 2003 campaign, are already available. These additional investigations are part of a wider

research interest of S. Frey-Kupper, but at the same time these too show that only international co-operation may bring about future advances in the field of (Punic) archaeology.

POSTSCRIPT

For the new series of C^{14} -dates of Carthage, see now also the article by Nijboer and Van der Plicht on pages 31-36 of this publication.

NOTES

* The investigations have been made possible from the Belgian side by generous support of the Fund for Scientific Research Flanders (Belgium: FWO-Vlaanderen) - over the years 2003-2005 (research grant references 1.5.033.03, 1.5.168.04, and 1.5.228.05). From Tunisian side, the project has been supported financially and logistically by the Institut National du Patrimoine (INP). Special thanks go to R.T. Miles (Cambridge) and his team for scientific collaboration in the field, to F. Rakob (Rome/Münster) for lending us the field library in Carthage, to H.G. Niemeyer (Hamburg) and J. Rossiter (Alberta) for lending us their respective excavation equipments, and to J. Debergh (Brussels) for his continuous support in bibliographical matters. The rector of Ghent University, Prof. A. De Leenheer, the Director General of the INP in Tunis, Prof. B. Ben Memi, and the Director of the Department of Research and Inventory of the INP, Prof. F. Bejaoui, and their respective staff, have been most supportive in formalising the Tuniso-Belgian collaboration in a bilateral convention. We gratefully acknowledge the great support we received from the Belgian ambassador to Tunisia, Mr. R. Devrieze, as well as from the Belgian consul, Mr. B. Mariën and his wife, Mrs. G. Mariën-Meeuwesen. In 2003, the team profited from the collaboration with the AFS organisation and in particular from the collaboration with B. Malki and A. Zaafrani.

1 In the framework of the Tuniso-Belgian investigations, it has been preferred to use the transcription 'Bir Massouda' for the Arab toponym. Earlier publications use the French transcription 'Bir Messaouda' for the same site, for example Cintas 1976, 62-63, fig. 3 (erroneously situating the site farther to the coast, though). See also Docter forthcoming d.

2 Docter et al. 2003. Two further preliminary reports in French, partially highlighting different aspects of the bilateral investigations on the Bir Massouda site, are currently in press: Chelbi/Maraoui Telmini/Docter forthcoming a and b.

3 The project direction has been in the hands of F. Chelbi, R.F. Docter and B. Maraoui Telmini. The field team consisted of the Tunisian participants R. Ben Mabrouk, H. Ben Romdhane, S. Garsallah, B. Labidi, M. Sebaï, and M. Zmerli (Paris), and the Belgian participants J. Claes, T. De Schacht, E. Deweirdt, K. Ryckbosch, B. Taverniers, J. Van Kerckhove, E. Van Wontergem, A. Verbeeck and L. Verdonck. Besides, a Palestinian architecture student, M. Othman, joined the team for two weeks. A. Alen (Brussels), S. Roudesli Chebbi (Carthage) and K. Schmidt (Hamburg) were responsible for the finds' laboratory.

4 Apart from F. Chelbi, R.F. Docter, and B. Maraoui Telmini, the field team consisted of the Tunisian participants M. Azaza, H. Ben Romdhane, N. El Hani (Boulogne sur Mer), S. Garsallah, K. Hamdi, D. Maaoui, J. Mabrouk, F. Majri, and S. Massoudi, and the Belgian participants V. De Clercq, T. De Schacht, L. Donnellan, V. Pauwels, A. Quintelier, K. Ryckbosch, T. Simoens, L. Vandamme, A. Verbeeck, and C. Wysevelde. The team of the finds' laboratory consisted of B. Bechtold (Graz), L. Fersi (Tunis), S. Roudesli Chebbi (Carthage), K. Schmidt (Hamburg), and W.D.J. van de Put (Amsterdam). Three geography students of Ghent University, L. Mortier, T. Neutens, and S. De Seranno, were responsible for the topographical surveying (see also infra).

5 In this short campaign, B. Maraoui Telmini, T. De Schacht and S. Garsalah finished the work in Trenches 4 and 7 with the aid of some workmen.

6 It should be noted that - in view of the system of field-numbering of the contexts (see Docter et al. 2003, 65, note 18), it has been decided to reuse the Trench numbers 3, 4, 5 and 6 of the earlier University of Amsterdam excavations (see Docter et al. 2003, 44, fig. 1), since these trenches would not be continued and had been backfilled in the meantime.

7 The team consisted of 7 participants: M. Achour, S. Becherifia, M. Ben Nejma, H. Ben Romdhane, S. Garsallah, M. Torchani, and Ch. Touibi.

8 Magon Quarter: Rakob 1991a, 5. Hamburg site: Niemeyer et al. 1993, 206, note 16; 2002, 51, note 13.

9 So, in 2002, at the start of the first bilateral excavations of Ghent University and the Institut National du Patrimoine, K. Blyth and P. Clark of the Cambridge team set up a new point zero and several new grid points with known elevations in Trenches 1 and 8. These served in 2003 as basis for a transfer of the point zero to a more stable position on an ashlar block at the western edge of Trench 3 (elevation 14.08 m above sea level).

10 This 1:2000 map, which served as the basis of the first map of the site made by A. Mezzolani (see Docter et al. 2003, 44, fig. 1), shows the contour lines of altitude between 10 and 15 m running over the site.

11 This geodetic point is marked by a bronze nail, set in a concrete frame, and is to be found in front of the director's office, close to the lions' spout fountain. The astronomical point (1st order) has the Lambert coordinates latitude 8G 87' 24'' East, longitude 40G 94' 64'' North, elevation 56.75 m above sea level. It is marked as 'Carthage, Station Astronomique' on the 1/50,000 plan: La Marsa feuille XIV. It was the origin of the calculation of the definitive triangulation of Tunisia. We owe this information to P. Trousset, through S. Stevens.

12 The measurements were taken by L. Mortier, T. Neutens, and S. De Seranno, by way of trigonometric levelling using a Leica TC1610 totalstation with 1.5" angle accuracy and 2 mm + 2 ppm (parts per million or mm/km) distance accuracy and using a prism reflector on a pole. Fourteen stationing points were used to encompass the height difference between the Tunesian geodetic point and the Bir Massouda point zero. The average height difference of the double measurement amounts to 42,969 m. The maximum line-of-sight distance used was approximately 35 m. The standard deviation on this height difference, and thus on the recalculated level of 13.781 m, can be estimated to be 5 cm.

13 The elevations above sea level in Docter et al. 2003 should be corrected accordingly.

14 Niemeyer 2004.

15 Docter 2000; forthcoming b; R.F. Docter/B. Maraoui Telmini, in Docter et al. 2003, 48-55, figs. 6c, 7e,8b, d.

[16] Docter et al. forthcoming b.
[17] Docter et al. 2003, 46, fig. 5; Docter 2004b, 123-128.
[18] See especially Docter 2004a and 2004b for full references. Compare also the 10th-9th-century casemate city walls of Hazor (King/Stager 2001, 190, fig. 92) and the casemate wall of the first half of the 7th century BC in Beyrouth (Badre 2000, 945-946, 948 with plan).
[19] Rakob 1995, 422, fig. 5, pl. 111,1-2E; 2002, 26-27, 41, fig. 7, pl. VI,2; Docter 2004a, 33, fig. 6; 2004b, 124, fig. 6.
[20] See on this, especially Docter et al. 2003, 45-46. The site of the Hamburg excavations below the *Decumanus Maximus* to the north seems to be situated higher, though, although steeply dropping towards the sea (*fig. 3*).
[21] In the two sectors, on either side of the Archaic transversal wall BM00/8032+BM02/8209, the compact dark brown virgin soil was reached at 9.27 and 9.30 m above sea level, respectively.
[22] Docter et al. 2003, 45, 54, 63-64, fig. 4.
[23] It should be noted in this connection, that the dating is based on Phoenician pottery only, which implies a rather ample dating, given the highly traditional way of pottery production in Carthage and other Phoenician settlements. On this problem of inaccurate dating, see also Docter et al. forthcoming b.
[24] F. Chelbi/B. Maraoui Telmini, in Docter et al. 2003, 46-48. The first presentation of the necropolis is in Chelbi/Maraoui Telmini/Docter forthcoming a; see also forthcoming b. On the question of 8th-century necropoleis in Carthage, see Bénichou-Safar 1982, 321-325.
[25] Stager/Wolff 1984, 42-43 (fig.); Stager 1992, 72 (fig.). See now also the colour photograph in King/Stager 2001, 360, pl. 223b-d.
[26] Chelbi/Maraoui Telmini/Docter forthcoming a.
[27] See Docter et al. 2003, 47, 51-52, fig. 7a-c; Docter 2004b, 128-130, fig. 9.
[28] Cf. Benichou-Safar 1982, 265, 275-276, 302; Chelbi 1985, 91-92, nos 17-18 (figs.). It should be noted, however, that also in the Hamburg excavations below the *Decumanus Maximus*, fragments of five ostrich eggs have been found, two of which painted: K. Schmidt, in Niemeyer et al. forthcoming, cat. 6335-6338. This part of the city clearly was *intra muros* (cf. fig. 1, 3). The fact that on three of these eggs traces of red substance have been found on the inside, leads K. Schmidt to suggest that these settlement finds may have been luxurious containers for cosmetics. It should be remembered, though, that also some of the ones found in the necropoleis had been provided with red substances on the interiors (Benichou-Safar 1982, 265, note 199 and reference; see also below on the red ochre found in the foundation deposit).
[29] Lancel 2002; see also 1995, 221.
[30] This *terminus post quem* for the installation of the metal working quarter on the southern Byrsa Hill is based on the date of the material in the yellowish sand layer, which prepared the zone for these new activities. It should be noted that S. Lancel gives a different *terminus post quem* of these iron working installations, in the last quarter of the 5th to first quarter of the 4th century BC (Lancel 1982a, 238) or even only the late 5th century BC (Lancel 1995, 138, 140, fig. 72,4-5). See also R.F. Docter/B. Maraoui Telmini, in Docter et al. 2003, 54 with note 33; also note 128, infra.
[31] Bénichou-Safar 1982, 325; Cintas 1976, 250; Lancel 1995, 51-54, 220-221. In the East, see now especially the cremation necropolis of Tyre, which is very comparable in respect to the pozzi found on the Bir Massouda site, Aubet/Nuñez/Trelliso 1998-1999; Aubet 2004.
[32] Lancel 1995, 45-54.
[33] A second, more hypothetical explanation starts from the possibility that these specific human skull fragments are the remains of prisoners sentenced to death (decapitated), whose heads would have been put up on stakes on the city walls or just in front of these. After some time, these skulls may either have fallen off the stakes or just been thrown over the walls. One is reminded of a later Carthaginian parallel for such a treatment of the human body. When in 202 BC the corpse of Hasdrubal (son of Geskon and father of Sophonisba) was dragged out of his father's tomb, where he had committed suicide, it was decapitated and his head was put up on a pike by the Carthaginian mob (Appian, *Historia romana* 7.38). In any case, hypothetical as it may be, this explanation would perfectly fit the topographical situation of the Bir Massouda site at this period, outside the inhabitated city area.
[34] We owe this kind information to the excavator, A. González Prats (Adra, December 2003 and by letter of March 2005).
[35] Finds of human skulls in settlement contexts in East Spain, in Puig de Sant Andreu d'Ullastret (Baix Empordà) and Illa d'en Reixac, and in South France, in Entremont (Aix-en-Provence, Bouches-du Rhône), have been interpreted as remains of either ancestor cults or war trophies, see Martín i Ortega 2000, 116-120.
[36] It is half of a left cheek bone, of which the upper junction is missing. One notes the presence of the chin hole situated between premolars PM1 and PM2 as well as of the lateral incisor, two premolars (PM1, PM2), and three molars (M1, M2, M3). M2 has been completely devastated by caries; only the form of the molar is preserved. M1 and PM2 each show a post-mortem crack.
[37] It is an extremely remarkable coincidence that the reconstruction drawings (artist's impressions) of the French draughtsman J.-C. Golvin show an internal city wall - running north-south - to be at more or less exactly the same place as the Bir Massouda terrain: Fantar 1998b, 36, 43, plans I-II and cover; Niemeyer 2004, 39 (fig.); Amelung 2004, 89 (fig.).
[38] King/Stager 2001, 190, fig. 92, with references.
[39] These stones seem to be comparable to the ones used in the Middle Punic seaside city wall entrance of the Magon Quarter, Rakob 1991a, 165-174, 128-138, figs. 32-34, Beilagen 3 and 34; 2002, 18-19, 21, 36, fig. 3, pl. I,1; Docter 2004b, 12-13, fig. 7.
[40] Detailed study of the pottery is foreseen in the study campaign of summer 2005.
[41] To the southwest of the city wall angle (bastion) BM04/4406+4428 and BM03/4345+BM04/4474, the bedrock has partly been cut away to a considerable depth. Initially we thought that here an earlier tomb had been cut into the bedrock/virgin soil, but upon reaching the undisturbed virgin soil at the base, which consisted here of a sterile sandy layer, this option had to be discarded. It may perhaps have been a pit where lime stone rubble for the first constructions on the site has been extracted. The extension of this pit to the west and north could not be established. Its fill has a perfect multi-layered horizontal stratigraphy, showing that the pit has been filled up over a longer period of time. We probably have here the earliest stratigraphical sequence of Carthage (see also on the C^{14} programme, supra).
[42] Limited excavation and close investigation of the walls and foundations scheduled for summer 2005 may clarify this problem.

[43] It had been foreseen that the present preliminary report on this important find would include a report on the animal bones by W. Van Neer and A. Alen as well. Unfortunately, the move of the archaeozoological laboratory from Tervuren to Brussels in the winter of 2004/2005 prevented the realisation of this intent.

[44] Of the first 48 cm of the fill only two buckets of 9 litres were collected for sieving; the rest was sieved completely.

[45] Docter et al. 2003, 45.

[46] A third, later phase may be seen in the construction of a small bench-like structure to the northern side of the basin (BM04/7445; *fig. 19*).

[47] The excavation of the pit gave nice clues as to the way in which it must have been emptied in Antiquity. The pit is too narrow to allow for a person (even a child) to enter. One can only reach the bottom of the pit by using one's full arm length and a special scoop of about 1 m with an off-set blade. These special scoops had been in use for the same purposes in Tunisia and northwestern Europe (Belgium and the Netherlands) till well into the 20th century.

[48] For additional observations on and references to the Red Figure pottery in this context, I thank A. Vondra, W.D.J. van de Put (both Amsterdam) and R.F. Docter.

[49] We have taken all fragments into consideration that were found in the excavation as well as those recuperated during the sieving procedures. The majority of the latter category is extremely small, though.

[50] On these tabouna furnaces see B. Bechtold, in Docter et al. 2003, 56-57, 59-60, figs. 9l, 10.

[51] Since both fragments are identical in shape, we only illustrate one.

[52] Although the clay properties are identical to those of the CdE 1 amphorae of the Archaic period (cf. Docter et al. 2003, 53, cat. 11, fig. 8c, with references), Carthage has yielded some examples of the later types of the 5th and 4th centuries BC, cf. Bechtold forthcoming c, cat. 5545; forthcoming e, cat. 2378, both with references.

[53] B. Bechtold, in Docter et al. 2003, 55, 66, note 38.

[54] Chelbi 1992, 20.

[55] LaMotta/Schiffer 1999. It is remarkable in this connection that the only traces to be perhaps connected with an accident are the traces of fire on the first torba floor, which is however to be related to the first phase of the ensemble.

[56] Morel 2000, 260.

[57] Morel 2000, 260; Bechtold forthcoming b; forthcoming e, and below.

[58] Madau 2000, 103. The author observes the weakening of the Phoenician culture on Sardinia around the middle of the 4th century BC, reflecting the monolithic state of Carthaginian politics, imposing its power upon the old and new centres during the second half of the 4th century BC.

[59] Di Stefano 1993, 43-47; Bechtold 1999, 279-283.

[60] Chelbi 1992, 18.

[61] Chelbi 1992, 18-19.

[62] Chelbi 1992, 20.

[63] Morel 2000, 259-260; see also B. Bechtold, infra, with references.

[64] Morel 2000, 262.

[65] Beazley 1963, 1485-1495, 1695-1696.

[66] Niemeyer et al. 1996, 52, cat. 24; Bechtold forthcoming b, cat. 4408, with further references. It has not been considered a building deposit earlier and, hence, not so by Mansel in her study of such finds in the Hamburg excavation, Mansel 2003; forthcoming; cf. fig. 1.

[67] Chelbi 1992, 55-56, 171.

[68] The Beazley Archive database lists 233 Attic Red Figure skyphoi for the time period 450-300, none with a subject comparable to the new Carthage fragment. Only once the subject matter 'lion and horse' yields an example on an oinochoe in the Cabinet des Médailles in Paris (ca 450-400 BC), other combinations of feline/lion and cow/bull, deer or horse yield no or no comparable results.

[69] Trias 1999, 281-285, figs. 9,80-85, 10,86-88, pl. 31,80-88.

[70] Robinson 1950, 162, pls. 107-108.

[71] Barnett/Mendleson 1987, 60, pl. 25,7/5, 13/4.

[72] Chelbi 1992, 203-204, nos 472-474, 476.

[73] Chelbi 1992, 61.

[74] Rudolph 1971, 102-104, 111.

[75] Rudolph 1971, 57-58, pl. XXVII.4: London E684.

[76] Chelbi 1992, 60.

[77] Chelbi 1992, 62, 208-209, nos 493-494.

[78] Chelbi 1992, 60.

[79] Lullies 1944, 31, pl. 102,2.

[80] Massoul 1935, 70, pl. 32,10, 12, 23.

[81] Bonomi 2000, 96, fig. 9; see also Massei 1978.

[82] Beazley 1963, 1504-1505. On the name piece of the 'Group of the Cambridge Askos' (Cambridge X 34), see Boardman 1989, 193-194, pl. 426.

[83] The Beazley Archive database shows examples from Berkeley (Phoebe Apperson Hearst Museum of Anthropology), Ferrara (Museo Nazionale di Spina), and Vienna (Kunsthistorisches Museum).

[84] The earliest occurrence seems to be with the work of the Dirce Painter early in the 4th century BC, for example on two bell-kraters from the Fusco necropolis in Syracuse (Arias 1941, IV E, 5-6, pls. 8-9 = Trendall 1967, 202-204, pl. 80,2 = 1987, 24-25, pl. 2a-b) and a calyx-krater (name-piece: Trendall 1989, 29-30, pl. 61). Ivy bands in combination with added white dot-clusters (rosettes) around the rim also occur in other South Italian productions, as for example in Paestan and Campanian Red Figure (probably inspired by Siciliote productions of the Dirce Painter, see Trendall 1987, 22-23; 1989, 29-30), but the rendering seems to be different from the present piece. See for example, a bell-krater from Paestum attributed to the Caivano Painter of around 350 BC (Trendall 1989, 160, 178, pl. 282), the calyx-krater of the Scoglitti Group (Trendall 1967, 216-218, pl. 86,3-4), and the bell-crater of the Whiteface Painter (Trendall 1967, 378-380, pl. 146,1-2). For the occurence of ivy bands on bell- and calyx-kraters in the Paestan repertoire, see Trendall 1987, pls. 46, 50, 90, 150, 160a.

[85] Trendall 1967, 584-587, pl. 226,8 = 1989, 235, 243, pl. 421.

[86] Trendall 1989, 236, 245, pls. 427-428.

[87] Trendall 1967, 600-602, pls. 235,2-3, 236,3-4.

[88] Sparkes/Talcott 1970, 134-135, pl. 33, fig. 9. Small bowls have been divided into many categories that began in the early 5th century BC and developed during the 4th century till well into the Hellenistic period. Our fragment is very similar in shape to two categories: 863-876 and 882-889, both of the Classical period. The shape is closer to Lamboglia shape (21-25), considered to be earlier than the 4th-century BC shapes Lamboglia 21, 22, 23, and 26, occurring during the whole century (Lamboglia 1952, 174-175). Such small bowls were mainly used for salt, sauce and other foodstuffs during the Classical period; see Sparkes/Talcott 1970, 132.

[89] The authors emphasize the similarities in shape between the two examples, though. See Sparkes/Talcott 1970, 135.

[90] Type 2714.d.1: Morel 1981, 209, pl. 67.
[91] Barnett/Mendleson 1987, 64, pls. 81,5/11, 83,6/5, 94,11/6.
[92] Chelbi 1992, 43, 130-131, variant 21/25A, especially nos 165-166.
[93] Robinson 1950, 386, especially nos. 390-391, pl. 232.
[94] For this placement of the palmettes, connected by a circle, see for example a bowl with incurving rim in the Zénon Piéridès collection, dating to the second quarter of the 4th century BC (Maffre 1971, 688-689, fig. 41a-b).
[95] Used as guiding lines to indicate the point where the potter would impress a particular motif, see Sparkes/Talcott 1970, 23.
[96] Jehasse 1978, 5, fig. 4.
[97] This arrangement of alternating painted circles and reserved areas is characteristical of some Attic Black Glaze pieces datable to the end of the 5th century BC, Sparkes/Talcott 1970, 17-18.
[98] Chelbi 1992, 239, no 619.
[99] Sparkes/Talcott 1970, 29. Towards 380/370 BC, the ovules are replaced by rouletted bands (Jehasse 1978, 5).
[100] Morel 1981, 442-443, pl. 221,11.
[101] M. Achour, who currently prepares a dissertation on the lamps of Carthage, has made the drawings of the two lamp fragments.
[102] Howland 1958.
[103] Howland 1958, 67-69; Bussière 2000, 18, 55, AIII-1 (P 90-92).
[104] Blondé 1983, 99-113, pls. 12-14, especially pl. 14,161.
[105] Sparkes/Talcott 1970, 128.
[106] Sparkes/Talcott 1970, 128-129; Chelbi 1992, 38.
[107] See for example Sparkes/Talcott 1970, 129, fig. 8, no 803.
[108] Lamboglia 1952, 171-172.
[109] Morel 1981, 205, pl. 65.
[110] Chelbi 1992, 38-39, 111-115, pls. 82-96.
[111] A stamped fragment of an Attic bowl with out-turned rim has been found in the DAI excavations and is dated to the second quarter of the 4th century BC, see Trias 1999, 283, 285, fig. 10,92, pl. 31,92.
[112] Sparkes/Talcott 1970, 129, nos 807-808, fig. 8.
[113] B. Bechtold is thanked for her observation that the clay evidences a production of Lilybaeum (Carthage, summer 2004).
[114] Di Stefano 1993, 43, pl. XXXIV,1.
[115] See Docter 2003, 121-123, 125-130, especially cat. 1234, pl. 73,1234, with references.
[116] Gassner 2000, 127, fig. 2.
[117] Wolff 1986, 137-141: Corinthian B type amphorae are represented with 14 rims, 11 handles, 5 bases, and about 200 wall fragments.
[118] Vegas 1999, 121-122, fig. 16, 30-33.
[119] Wolff 1986, 141.
[120] Ramón 1995, 179, 376, 515, 607, figs. 27, 153, 241, map 27.
[121] M. Vegas, in Rakob 1991a, 123-124, fig. 126, 110.
[122] R.F. Docter, in Niemeyer et al. 1993, 233-234, fig. 12g = Niemeyer et al. 2002, 85-86, fig. 20g.
[123] Ramón 1995, 179.
[124] Camerata Scovazzo/Castellana 1998, 224, 233 (VG181), 317-319 (R12): graves 28 and 89.
[125] Vegas 1999, 174, fig. 78.
[126] Vegas 1999, 161-162, fig. 59.
[127] Vegas 1999, 182-184, fig. 90a.
[128] Lancel 1979, 80-81, pl. 29,18 (context A.101, with material dating till the early 2nd century BC, see Lancel 1979, 79, 81, fig. 26,2-3); 1982a, 222-223, 228, fig. 289,8 (the preparation levelling layer context A.322, with material dating before the middle or end of the 4th century BC). On the date of these metallurgical installations (post quem context A.322), see also the comments in note 30, supra.
[129] Cintas 1950, 103-104, especially pl. IX,110, 115.
[130] Bechtold 1999, 130-131, with references, pl. XX, 206-208.
[131] Bechtold 1999, 140, note 176, with references.
[132] Fernández 1992, II, 20-21.
[133] Nos 402 and 509 are dated to the first half of the 5th century BC, nos 198 and 209 to the middle of the 4th century BC, Bartoloni 1996, 99, 190, 192, 220, 231, figs. 24, 198 and 209, 36,402, 40,509, pls. XVI,4, XVII,6, XXIX,4, XXXV,2.
[134] Barnett/Mendleson 1987, 53, pl. 7,30,13/2.
[135] Gallet de Santerre/Slim 1983, 47, pl. XVIII, T1/66, fig. 4 (olpe no 21); pl. XX, T3/66, fig. 1 (olpe no 1); pl. XXIV, T7/66, fig. 3 (olpe no 3).
[136] Vegas 1999, 166-167, fig. 68.
[137] Cintas 1950, 117-119, pl. XIII,168-175.
[138] Cintas 1950, pl. XVII, T1/66, fig. 5 (oinochoe no 12); pl. XXI, T3/66, fig. 8 (trefoil-mouthed jug no 26); pl. XXII, T3/66, figs. 4, 5 and 6; pl. XXXII, T4/66, fig. 4; pl. XXXIV, T10/66, figs. 5 and 6.
[139] Vegas 1999, 182-184, fig. 90a.
[140] Cintas 1950, 85, pl. V,58.
[141] Lancel 1982b, 364.
[142] Rim diameters vary from 7 cm (A.184.7, A.154.7, Lancel 1982b, 321, 356) to 10 cm (A.192.5, Lancel 1982b, 291).
[143] Lancel 1982b, 273, 275, 283, 290, 295, 322-323, figs. 354-355, 365, 377-380, 403-404, 422-425, 498, 504, etc.
[144] Vegas 2002, 157-158, fig. 4,55-56.
[145] M. Vegas, in Rakob 1991a, 140-151.
[146] Vegas 1984, 223, 225, fig. 3,57 = 1986, 126, 128, fig. 3,9.
[147] Vegas 1999, 189-1892, figs. 96-97.
[148] Vegas 1999, 195-199.
[149] Cintas 1950, 77, pl. III,43.
[150] Bechtold 1999, 144, pl. XXVII,241, with further references.
[151] Sparkes/Talcott 1970, 226, pl. 94.
[152] Vegas 1999, 195-196, fig. 103.
[153] Bechtold 1999, 144-145, pl. XXVII,242, with references.
[154] Cintas 1950, 99, pl. VIII,99-100.
[155] Vegas 1999, 196-197, fig. 104,3.
[156] B. Bechtold, in Docter et al. 2003, 55-58, cat. 20, figs. 9i, 10.
[157] Bechtold forthcoming a.
[158] Vegas 1999, 198-199, fig. 108,1.
[159] I would like to thank R.J. Jansen for his continuous support to this project. Also the Allard Pierson Foundation and its secretary H.A.G. Brijder are thanked for giving me generous support in these investigations.
[160] R.F. Docter, in Niemeyer et al. forthcoming, cat. 6333.
[161] On top of it, a tiny rectangular plate has been observed microscopically, which seems to be composed of completely corroded regularly spaced silver grains. Its size is no more than 0.3 mm (!), which is puzzling and needs further research.
[162] Karageorghis 1979, 681, fig. 30.
[163] Gauckler 1915, 76, pl. LV. The same tomb has also yielded two stone pendants in the shape of wolves provided with silver suspension rings.
[164] Johns 1932, 97, pl. XXXIII,876-878.
[165] Gjerstad et al. 1935, 57, pl. XIV,17, tomb 9.
[166] Johns 1932, pl. XXIII,556, tomb L21.
[167] Dayagi-Mendels 2002, 38, fig. 4.1, no 3.
[168] Barnett/Mendelson 1987, 144, no 5/32 (tomb 5), p. 185, fig. 31b, pl. 105, no 16/20 (tomb 16).

169 Seefried 1982.
170 The storerooms of the Musée National du Bardo (Tunis) and the Musée National de Carthage contain large numbers of glass paste beads and of beads in quartz-like paste covered with glaze. These need to be studied in the first place from the point of view of their compositions, for which reason chemical laboratory analyses are necessary before confronting them with other data from elsewhere in the Mediterranean world, where several production centres must have existed. It is absolutely necessary to undertake such a comparative study and a typo-chronological analysis of these objects, which for so long have unjustly been considered as 'trinkets' or examples of 'minor art'.
171 Ruano Ruiz 1996, 43, 46, table 3.
172 Dayagi-Mendels 2002, 38, fig. 4.1, nos 14-18, 21-24; p. 40, fig. 4.2, nos 11-13; p. 54, fig. 4.8, nos15-16.
173 Moorey 1980, 118, 120, fig. 20, no 503,e,k; no 505,d,f,i.
174 Popa 1978, 87, pl. 11, grave 14, nos 3-4; pl. 15, grave 33, no 4.
175 Johns 1932, 63, pl. XV, no 329 (g); 80, pl. XXV, no 652; 96, pl. XXXIII, no 880.
176 Gauckler 1915, 63, pl. CXLIV (tomb 166); Chelbi 1985, 91 ('collier 5').
177 Stager 1982, 159, pl. 18d (second from below, first piece); Stager/Wolff 1984, 45 with fig., in the middle of the tophet cremation urn.
178 Lancel/Thuillier 1979, 224, fig. 74, A.151.4. For Carthage, see also the inventory of glass beads in settlement contexts and publication of 4 simple monochrome glass beads from contexts in the University of Amsterdam excavations on the Bir Massouda site, dating to the the Middle and Late Punic periods as well as residually from the Early Roman ('Augustan') period, Sonneveld/Docter forthcoming.
179 Gallet de Santerre/Slim 1983, 42, pl. XXXVI, figs. 2-3; Pisano 1988, 375 with fig.
180 Padro i Parcerisa 1983, 45, pl. XXXVII,6; 60, pl. XLIII,8.
181 Cruz Pérez 1990, 199, fig. 183, no 4.
182 Barthelemy 1992, 32-34.
183 Barnett/Mendleson 1987, pl. 130, no 29/20.
184 Fantar 1972; Grose 1989; Arveiller-Dulong/Nenna 2000.
185 Sonneveld/Docter forthcoming.
186 Docter forthcoming f.
187 Docter forthcoming e, Appendix 3. These counts do not include the material from the Hamburg *Decumanus Maximus* excavations (except for one building offering context, see note 202, infra).
188 Vegas 1999, 112-113, fig. 11b, Komplex 9 (context K 78/376). It is context no 90 in Docter forthcoming e, Appendix 3; forthcoming f, table 1.
189 M. Vegas, in Rakob 1991a, 146, 148-151, figs. 30,100-117, 31; Vegas 1999, 106-107, fig. 8, Komplex 4 (partly); 2000, 1240-1241, 1246, fig. 6 (partly). It is context no 76 in Docter forthcoming e, Appendix 3; forthcoming f, table 2.
190 See Niemeyer et al. 1995, 488-489; Docter et al. forthcoming a.
191 Docter forthcoming f, with references. In connection with his finds on the Byrsa hill, S. Lancel already refers to the possibility of *koprologoi* in Carthage (Lancel 1995, 159).
192 This had partly already been done in the preceding period, as the Archaic context from the Magon Quarter discussed above clearly shows. Also a good number of the Archaic layers on the *extra muros* part of the Bir Massouda terrain may be explained in this way.
193 G. Stanzl, in Rakob 1991a, 20-23 with note 10, fig. 5 (Raum P 32), 23-24, fig. 6 (Raum P 34).
194 R.F. Docter et al. forthcoming a.
195 Rakob 1995, 433-434, pl. 118,1; 2002, 30, 45, pl. X,1-3. These pebbles had been found in connection with food offerings in two Punic amphorae of the second half of the 3rd century BC, apparently buried below the surface.
196 Fantar 1986, 186-188, 248-249, pls. LXXIV-LXXV, with further references, also for the tophets mentioned.
197 Fantar 1986, 161-162, 251-252, pls. LXXVII-LXXVIII.
198 Aranegui Gascó 2001; Mansel 2003, 136, 147-148, figs. 10-12, with references.
199 Many thanks go to W.J. van de Put (Amsterdam) who restored the vessels and to K. Mansel (Berlin) who gave valuable advise on the interpretation of the find.
200 Mansel 2003; forthcoming; see also note 66, supra.
201 Mansel 2003, 133-134.
202 Niemeyer et al. 1993, 209, pls. 55,2, 57,1 = 2002, 55, 101, pl. IV,2; 1996, 12-13, 56, fig. 7, cat. 47; Docter 1997, § 3.2.1, Phase III, fig. 10.
203 Niemeyer et al. 1993, 208-209, fig. 6, pl. 55,1 = 2002, 53-54, 101, fig. 6, pl. IV,1; 1996, 12, 56, fig. 6, cat. 45-46; Mansel 2003, 130, 133; forthcoming.
204 Mansel 2003, 134-135, 143-144, figs. 6-7; forthcoming.
205 Mansel 2003, 137: 'In jüngeren Fundzusammenhängen gehören Importe...zu den Deponierungen.'
206 See Mansel 2003, 133; forthcoming.
207 B. Bechtold, in Docter et al. 2003, 56-57, 59, figs. 9j-k, 10, cat. 23-24.
208 Groß 1979, 229: Oppermann 1979, 1535-1536; Ramos Sainz 1990, 109-111.
209 Benichou-Safar 1982, 265-266: '...le cinabre se trouve souvent dans les tombes carthaginoises, déposé dans une cupule ou un petit coffret...' See also Lancel 1995, 53.
210 Mansel 2003, 129.
211 Vegas 1999, 138-139, fig. 26.
212 Bechtold forthcoming a, cat. 2094.
213 Bechtold forthcoming a.
214 Bechtold forthcoming a, cat. 2132-2135.
215 M. Vegas, in Rakob 1991a, 35-36, fig. 10,22.
216 Merlin/Drappier 1909, fig. 61 = Cintas 1950, 137, no 255, pls. XX, LXIX. See also Cintas 1976, 343-352.
217 De Vogüé 1889, 7-8, pls. V,1, VI,3-4.
218 Cotza 1999, 49-50.
219 Harden 1937, 76-78, fig. 5a.
220 Docter 1997, § VII.2.1.3.5, fig. 581d, tab. 50 and especially fig. 275 from a deposit attributed to 'stratum VIa1' (ca 480-425 BC), which is a Plain Ware version, though, and has been provided with elliptical handles.
221 The most frequent motif is '... the lotus flower, usually with three petals...sometimes with five, ...with rounded or sharp ends, turned upwards or, more rarely, downwards ... Frequently, on each side of the pot there are three lotus flowers, ... The three vegetal patterns may be rendered in isolation or linked up with one another by their stems ... Furthermore, quite frequently, a wavy or linear horizontal stem has ivy or myrtle leaves on either side ... generally situated on the shoulder ... vertical or slanting stripes are often added to the vegetal patterns; horizontal stripes are painted on the handles', Cotza 1999, 51-52, 54, figs. 1-4.
222 G. Pisanu (Nuoro), who has seen colour photo's of the piece, kindly informed that he sees Tharros as an extremely likely candidate for the vessel's origin. I like to thank him for his interest and detailed information.
223 Docter 1997, § X.1.6-8, figs. 445-450, 453-454; forthcoming a, § XII.A.5, cat. 5457-5464. The import of Nuraghic amphorae from Sardinia starts already earlier, in the 8th

century BC; Docter 1997, § IX; 1998; forthcoming a, § XII.A.2, cat. 5362-5394.

224 Bechtold forthcoming c, cat. 5004 (= Ramón T-1.4.4.1 from a second or third quarter of the 4th-century BC level) and cat. 5005 (= Ramón T-4.1.1.3 from a first half of the 4th-century BC context).

225 Bechtold forthcoming e, cat. 2382-2383.

226 Bechtold forthcoming c.

227 B. Bechtold, in Docter et al. 2003, 56-57, 59, figs. 9j-k, 10, cat. 23-24.

228 Cotza 1997, 94-95.

229 See also Bechtold forthcoming e and B. Maraoui Telmini, supra.

230 The Tunisian authorities are kindly thanked for their liberal permission to export this important find on a temporary basis for analyses.

231 This lump of red material comes from a small levelling layer in Trench 1 (context BM00/1115; cf. fig. 1) and had been given sample number BM00/1063. The finds from the context are dated to the 6th and early 5th centuries BC; see Bechtold forthcoming d, cat. 570-574.

232 In 1978, a study has been published on annealing (tempering of metals, by slowly cooling off) of iron-bearing natural samples of red and yellow ochre (Singh/Jain/Chandra 1978). The amounts of iron, silicium and aluminium in these samples have been determined by chemical analysis. The authors concluded that red ochre contains iron mainly in the form of alpha - Fe_2O_3 and in alumina-type octahedra, while yellow ochre has iron chiefly in the form of alpha - FeOOH. The transformation of alpha - FeOOH to alpha - Fe_2O_3 was found to take place at a temperature of about 400 degrees C. Red ochre was shown to exhibit superparamagnetism. Infrared and differential thermal analyses were also carried out to supplement the results obtained through Mössbauer spectrometry.

233 Red ochre has been published from other Phoenician settlements too, but always without relevant analyses. See for example Spanò Giammellaro 2004, 194, cat. 9, from the Casa dei Mosaici in 4th or 3rd-century BC Motya. There, one may be certain that it had to be imported.

234 Dumble Report 1890. This report, as the Charlette Report s.d. (infra), could be studied in the Department of Geology of the Free University, Amsterdam.

235 Charlette Report s.d (probably dating to the nineteen-sixties; see also last note).

236 Fantar 1998a, 115, with references.

237 J.A. Greene, who surveyed the Carthaginian hinterland, mentions few earlier 7th-century BC sites (Greene 1986 107-113, figs. 19-20; 1992, 196), but the material from these sites seen by Docter and Bechtold does not necessarily date before the late 6th century BC at the earliest. J.A. Greene (Harvard) is thanked for his kind permission to study these finds.

238 Hovers et al. 2003.

239 Red Slip Ware has, to the best of our knowledge, only once been subject to a thorough compositional analysis. H.-G. Bachmann published in 1982 the results of the XRF (X Ray Fluorescence) and EDX analyses on some Red Slip Ware fragments in the Phoenician settlement of Toscanos in the South of Spain (Bachmann 1982). These local products were shown to contain apart from the characteristic clay elements also high amounts of iron (Fe), but Bachmann did not lay any connection with red ochre, though.

240 Lancel 1995, 57.

241 Peserico 2002, 21-27, fig. 4, pl. 3.

242 Peserico 2002, 24, fig. 4.

243 Peserico 2002, 22, pl. 4.

244 Grierson 1968, 349-350, no 234 (5.15 gr., 18.8-19.1 mm, 120^0). The other coin is a *nummus* from AD 539-540 of the type Justinian I (AD 527-565), also issued at Carthage, Bellinger 1966, no 302 (0.67 gr, 9.4-10.0 mm, 180^0). S. Frey-Kupper (Lausanne/Prahins), who is responsible for the analysis of the coin finds, provided these preliminary readings.

245 The literature on the *pavimenta punica* is extensive but dispersedly published: Dunbabin 1978, 16-17; Bruneau 1982; Fantar 1984, 493-514; 1985, 127-8 (table); Lancel 1985; Gaggiotti 1988; Rakob 1991b; Schmidt 1997; Dunbabin 1999, 101-103. A coherent study on the occurrence and development of these pavements in the Punic world is being prepared in cooperation with A. Mezzolani (Pesaro). The new tile floor and other examples of the *pavimenta punica* from the Bir Massouda site have also been depicted in Chelbi/Maraoui Telmini/Docter forthcoming b, figs. 9-12.

246 This early date for the first use of mortar pavements in Carthage is based on the stratigraphical finds of University of Hamburg below the *Decumanus Maximus* (cf. fig. 1), where the oldest pavement of grey mortar is dated to around 480 BC (so-called Tanit-Paviment I), see Niemeyer et al. 1995, 477, fig. 5,4, pl. 126,2; 2002, 58-59, 103, fig. 10,4, pl. VI,2; Schmidt 1997, 53; forthcoming.

247 Lancel 1985, 157-170, figs. 12-13. In this residential quarter, some tiles have been found that were not in situ (Lancel 1979, 83-84 figs. 39-40; Morel 1982, 196, 211, fig. 269). It is unlikely that these had been floor tiles, also since at least one was of blue schist. Perhaps some of these are related to the previous metallurgical activities in this zone, since one of the contexts in which they were found contained also other residual metallurgical waste.

248 Rakob 1991b.

249 On the basis of the photograph published by Cintas (1976, 93-94, pl. 56,1), I would suggest that the tiles are not lozenge-shaped, as he states, but rather more or less rectangular; they have only been set in a lozenge-shaped pattern. The sizes of the tiles are given by Cintas as 22/23 x 12 x 5 cm and as 24 x 12 cm by G.Ch. Picard (1946-1949, 676). See also A. Mezzolani on this problem (1999, 159 with note 15). On the finds from the Terrain Clariond, see also Fantar 1985, 24-25.

250 Niemeyer et al. 1995, 489, pl. 128,6 = 2002, 67, 105, pl. VIII,6; 1996, 24, fig. 25; forthcoming; Mezzolani 1999, 159-160, figs. 1-2.

251 On these and other finds from North-Africa, see Fantar 1984, 278-282, 387-388, 501, pls. 3-6; Mezzolani 1999, 159-162, figs. 3-6. On the hexagonal terracotta tiles in Mineo (Sicily), found in a corridor (?) of a Hellenistic nymphaeum, see Gentili 1965, 193, 195, fig. 4.

252 Cintas 1976, 94: 'L'assemblage à rainures et languettes'; Fantar 1984, 280. Group 2 in the classification of A. Mezzolani (1999, 159-164, with notes 17 and 30).

253 Mezzolani 1999, 162.

254 Docter 2004a; 2004b; forthcoming c.

255 See Niemeyer et al. 1996, 11-12, fig. 5.

256 In 2002, the limited scale of the excavation did not justify the installation of a sieving team. In excavations of the University of Amsterdam in 2000 and 2001, though, all contexts had been sieved in the way described here, see Docter 2004b; forthcoming c.

257 In 2003 we used plain excavation buckets, containing 8.5 litres, in 2004 we had to rely on different buckets,

containing 9 litres each. Sieving has been done with three mesh sizes: 10, 4, and 2 mm.

[258] See W. Van Neer, in Docter et al. 2003, 60.

[259] This funding has in the meantime been found by a generous grant of the Research Fund of the Faculty of Arts of Ghent University. Conservation is scheduled for summer 2005.

BIBLIOGRAPHY

Amelung, W. 2004, Der Staat und der Krieg, in *Hannibal ad Portas. Macht und Reichtum Karthagos*, Karlsruhe/Stuttgart, 88-95.

Aranegui Gascó, C. (ed.) 2001, *Lixus. Colonia fenicia y ciudad púnico-mauritana. Anotaciones sobre su ocupación medieval* (Saguntum Extra 4), Valencia.

Arias, P.E. 1941. *CVA Italia* 6, *Siracusa. Museo Archeologico Nazionale di Siracusa*, Rome.

Arveiller-Dulong, V./M.-D. Nenna 2000, *Musée du Louvre, les verres antiques* I. *Contenants à parfum en verre moulé sur noyau et vaissele moulée VIIe siècle av. J.-C.-Ier siècle ap. J.-C*, Paris.

Aubet, M.E. 2004, *The Phoenician Cemetery of Tyre-Al Bass. Excavations 1997-1999* (BAAL. Bulletin d'Archéologie et d'Architecture Libanaises Hors-Série I), Beyrouth.

Aubet M.E./F.J. Nuñez/L. Trellisó 1998-1999, The Phoenician Cemetery of Tyre al-Bass, *BAAL. Bulletin d'Archéologie et d'Architecture Libanaises* 3, 267-294.

Bachmann, H.-G. 1982, Versuch zur Charakterisierung phönizischer Rotschlicker-Keramik von Toscanos mit physikalischen Methoden, in G. Maaß-Lindemann, *Toscanos. Die westphönikische Niederlassung an der Mündung des Río de Vélez* 3. *Grabungskampagne 1971 und die importdatierte westphönikische Grabkeramik des 7./6. Jhs. v. Chr.* (Madrider Forschungen 6), Berlin, 225-232.

Badre, L. 2000, Les premières découvertes phéniciennes à Beyrouth, in M.E. Aubet/M. Barthélemy (eds.), *Actas del IV Congreso Internacional de Estudios Fenicios y Púnicos, Cádiz, 2 al 6 de Octubre de 1995*, Cádiz, 941-961.

Barnett, R.D./C. Mendleson (eds.) 1987, *Tharros. A Catalogue of Material in the British Museum from Phoenician and other Tombs at Tharros, Sardinia*, London.

Barthelemy, M. 1992, El vidrio fenicio-púnico en la Península Ibérica y Baleares, in *Producciones artesanales fenicio púnicas. VI Jornadas de Arqueología Fenicio Púnica (Ibiza 1991)* (Trabajos del Museo Arqueológico de Ibiza 27), Eivissa, 29-40.

Bartoloni, P. 1996, *La necropoli di Bitia* - I (Collezione di Studi Fenici 38), Roma.

Beazley, J.D. 1963, *Attic Red-Figure Vase-Painters* (second edition), Oxford.

Bechtold, B. 1999, *La necropoli di Lilybaeum*, Trapani.

Bechtold, B. forthcoming a, Die Gebrauchskeramik der archaischen bis spätpunischen Zeit. Schlichte Ware (Plain Ware) und bemalte Ware, in Niemeyer et al. forthcoming.

Bechtold, B. forthcoming b, Die importierte und lokale Schwarzfirnisware, in Niemeyer et al. forthcoming.

Bechtold, B. forthcoming c, Die Amphoren aus mittel- und spätpunischen sowie römischen Fundlagen (Phasen VI-VIII und später), in Niemeyer et al. forthcoming.

Bechtold, B. forthcoming d, Selected contexts of the Late Archaic period and the Middle Punic Period, in Docter forthcoming c.

Bechtold, B. forthcoming e, Observations on pottery of the Middle Punic Period, in Docter forthcoming c.

Bellinger, A.R. 1966, *Catalogue of the Byzantine Coins in the Dumbarton Oaks Collection and in the Whittemoore Collection* I. *Anastasius to Maurice*, 491-602, Washington.

Benichou-Safar, H. 1982, *Les tombes puniques de Carthage. Topographie, structures, inscriptions et rites funéraires*, Paris.

Blondé, F. 1983, *Greek Lamps from Thorikos* (Miscellanea Graeca 6), Ghent.

Boardman, J. 1989, *Athenian Red Figure Vases. The Classical Period*, London.

Bonomi, S. 2000, Ceramica attica da corredi tombali del IV sec. a.C. di Adria, in Sabattini 2000a, 93-98.

Bruneau, Ph. 1982, Pavimenta poenica, *MEFRA* 94, 639-655.

Bussière, J. 2000, *Lampes antiques d'Algérie* (Collection Monographies Instrumentum 16), Paris.

Camerata Scovazzo, R./G. Castellana (eds.), *Palermo Punica*, Palermo.

Charlette Report s.d., *Geological Survey Tunisia*, s.l.

Chelbi, F. 1985, Sépultures puniques découvertes à l'est du theatre, *REPPAL* 1, 77-94.

Chelbi, F. 1992, *Céramique à vernis noir de Carthage*, Tunis.

Chelbi, F./B. Maraoui Telmini/R.F. Docter forthcoming a, Découverte d'une nécropole du huitième siècle av. J.-C. à Carthage Bir Massouda. Rapport préliminaire sur les fouilles de l'Institut National du Patrimoine (Tunis) et l'Université de Gand, *CEDAC Carthage* 22 (2003) [2005].

Chelbi, F./B. Maraoui Telmini/R.F. Docter forthcoming b, Fouilles de l'Institut National du Patrimoine (Tunis) et de l'Université de Gand à Bir Massouda (campagnes de 2002 à 2004): problématique et bilan, *Séances academiques de l'Institut National du Patrimoine* 2005.

Cintas, P. 1950, *Céramique Punique*, Paris.

Cintas, P. 1976, *Manuel d'archéologie punique* II. *La civilisation carthaginoise. Les realisations matérielles*, Paris.

Cotza, E. 1997, Note sulla pittura vascolare punica, *Rivista di Studi Fenici supplemento* 25, 87-95.

Cotza, E. 1999, *A Study on Painted Vegetable Patterns on Tharros Punic Pottery*, in *Phoenicians and Carthaginians in the Western Mediterranean* (Studia Punica 12), Rome, 49-57.

Cruz Pérez, M.L. 1990, *Necrópolis ibérica de Los Nietos (Cartagena, Murcia)*, Madrid.

Dayagi-Mendels, M. 2002, *The Akhziv Cemeteries. The Ben-Dor Excavations, 1941-1944*, Jerusalem.

De Vogüé, M. 1889, *Note sur les nécropoles de Carthage* (Extrait de la Revue archéologique), Paris.

Di Stefano, C.A. 1993, *Lilibeo Punica*, Marsala.

Docter, R.F. 1997, *Archaische Amphoren aus Karthago und Toscanos. Fundspektrum und Formentwicklung. Ein Beitrag zur phönizischen Wirtschaftsgeschichte*, Amsterdam.

Docter, R.F. 1998, Die sogenannten ZitA-Amphoren: nuraghisch *und* zentralitalisch (19.09.1997), in R. Rolle/K. Schmidt/R.F. Docter (eds.), *Archäologische Studien in Kontaktzonen der antiken Welt* (Veröffentlichung der Joachim Jungius-Gesellschaft der Wissenschaften Hamburg 87) [=Festschrift H.G. Niemeyer], Göttingen 359-373.

Docter, R.F. 2000, East Greek fine wares and transport amphorae of the 8th-5th century B.C. from Carthage and Toscanos, in P. Cabrera Bonet and M. Santos Retolaza (eds.), *Ceràmiques jonies d'època arcaica: Centres de producció i comercialització al Mediterrani occidental. Actes de la Taula Rodona celebrada a Empúries, els dies 26 al 28 de maig de 1999* (Monografies Emporitanes 11), Barcelona, 63-88.

Docter, R.F. 2003, Amphorae and Pithoi, in C. Argyrocastritou-Hadzis (ed.), *BOYΘPΩTOΣ* II (Série de recherches sur Bouthrotos antique, publiée par la Mission

Archéologique Hellénique à Bouthrotos. Fondation Nationale de la Recherche Scientifique - Athènes), Athens, 111-194, pls. 64-104.
Docter, R.F. 2004a, Carthage Bir Massouda: excavations by the Universiteit van Amsterdam (UvA) in 2000 and 2001, *CEDAC Carthage* 21, 29-34.
Docter, R.F. 2004b, The topography of archaic Carthage: Preliminary results of recent excavations and some prospects, *TALANTA* 34/35 [2002/2003], 113-133.
Docter, R.F. forthcoming a, Archaische Transportamphoren, in Niemeyer et al. forthcoming.
Docter, R.F. forthcoming b, Die importierte griechische und zentralmediterrane Feinkeramik archaischer Zeit, in Niemeyer et al. forthcoming.
Docter, R.F. (ed.) forthcoming c, *Carthage. The excavations at the Bir Messaouda site 2* I (ARGU. Archaeological Reports Ghent University), Ghent.
Docter, R.F. forthcoming d, Previous Fieldwork on the Bir Messaouda site, in Docter forthcoming c.
Docter, R.F. forthcoming e, Published settlement contexts of Carthage, in Docter forthcoming c.
Docter, R.F. forthcoming f, The *koprologoi* of Carthage. On the scarcity of settlement finds in Carthage between c. 550 and 480 BC, in *Atti del V Congresso Internazionale di Studi fenici e punici, Marsala - Palermo 2-8 Ottobre 2000*.
Docter, R.F./F. Chelbi/B. Maraoui Telmini (with contributions by B. Bechtold/H. Koens/K. Schmidt/W. Van Neer) 2003, Carthage Bir Massouda. Preliminary report on the first bilateral excavations of Ghent University and the Institut National du Patrimoine (2002-2003), *BABesch* 78: 43-70.
Docter, R.F./H.G. Niemeyer/K. Schmidt forthcoming a, Grabungs- und Baubefund. Stratigraphie und Chronologie, in Niemeyer et al. forthcoming.
Docter, R.F./H.G. Niemeyer/A.J. Nijboer/J. Van der Plicht forthcoming b, Radiocarbon Dates of animal bones in the earliest levels of Carthage, in G. Bartoloni/F. Delpino/R. De Marinis/P. Gastaldi (eds.), *Oriente e Occidente: metodi e discipline a confronto. Rifflessioni sulla cronologia dell'età del ferro italiana*.
Dumble Report 1890, *Dumble Survey. Second Annual Report of the Geological Survey Department*, s.l.
Dunbabin, K.M.D. 1978, *The Mosaics of Roman North Africa*, Oxford.
Dunbabin, K.M.D. 1999, *Mosaics of the Greek and Roman World*, Cambridge.
Fantar, M.H. 1972, Collections de verres de Tunisie. Le verre à Carthage punique, *Bulletin de l'Association Internationale pour l'Histoire du Verre* 6, 17-27.
Fantar, M. 1984, *Kerkouane. Cité Punique du Cap Bon (Tunisie)* I, Tunis.
Fantar, M. 1985, *Kerkouane. Cité Punique du Cap Bon (Tunisie)* II. *Architecture domestique*, Tunis.
Fantar, M. 1986, *Kerkouane. Cité Punique du Cap Bon (Tunisie)* III. *Sanctuaires et cultes. Societé - economie*, Tunis.
Fantar, M. 1998a, De l'agriculture à Carthage, in M. Khanoussi/P. Ruggeri/C. Vismara (eds.), *L'Africa romana* 12. *Atti del II convegno di studio Olbia, 12-15 dicembre 1996*, Sassari, 113-121.
Fantar, M.H. 1998b, *Karthago. Die Punische Stadt*, Tunis.
Fernández, J.H. 1992, *Excavaciones en la necrópolis del Puig des Molins (Eivissa). Las campañas de D. Carlos Román Ferrer: 1921-1929)* (Trabajos del Museo Arqueológico de Ibiza 28-29), Eivissa.
Gaggiotti, M. 1988, Pavimenta Poenica marmore numidico constrata, in A. Mastino (ed.), *L'Africa Romana* 5. *Atti del V convegno di studio, Sassari, 11-13 dicembre 1987*, Sassari, 215-228.
Gallet de Santerre, H./L. Slim 1983, *Recherches sur les nécropoles puniques de Kerkouane*, Tunis.
Gassner, V. 2000, Produktionsstätten westmediterraner Amphoren im 6. und 5.Jh. v.Chr, *Laverna* 11, 106-137.
Gauckler, P. 1915, *Nécropoles puniques de Carthage* I, Paris.
Gentili, G.V. 1965, Mineo (Vatania). Fontana-ninfeo di età ellenistica nella zona detta Tomba Gallica, *NSc Supplemento* 19, 192-196.
Gjerstad, E. et al. 1935, *The Swedish Cyprus Expedition* II. *Finds and Results of the Excavations in Cyprus 1927-1931*, Stockholm.
Greene, J.A. 1986, *The Carthaginian Countryside: Archaeological Reconnaissance in the Hinterland of Ancient Carthage*, Chicago.
Greene, J.A. 1992, Une reconnaissance archéologique dans l'arrière-pays de la Carthage antique, in A. Ennabli (ed.), *Pour sauver Carthage. Exploration et conservation de la cité punique, romaine et Byzantine*, Paris/Tunis, 194-197.
Grierson, Ph. 1968, *Catalogue of the Byzantine Coins in the Dumbarton Oaks Collection and in the Whittemoore Collection* II, *Phocas to Theodosius III, 602-717. Part I, Phocas and Heraclius (602-641)*, Washington.
Grose, D.F. 1989, *The Toledo Museum of Art. Early ancient glass. Core-formed, rod-formed, and cast vessels and objects from the late Bronze Age to the early Roman Empire, 1600 B.C. to A.D. 50*, New York.
Groß, W.H. 1979, Ocker, in K. Ziegler/W. Sontheimer (eds.), *Der Kleine Pauly. Lexikon der Antike* IV, München, 229.
Harden, D.B. 1937, The Pottery from the Precinct of Tanit at Salammbo, Carthage, *Iraq* 4, 59-89.
Hovers, E./S. Hani/O. Bar Yosef/B. Vandermeersch 2003, An early case of color symbolism, *Current Anthropology* 44,4, 491-522.
Howland, R.H 1958, *Greek Lamps and Their Survivals* (The Athenian Agora IV), Princeton.
Jehasse, L. 1978, *La céramique à vernis noir du rempart méridional* (Salamine de Chypre VIII), Paris.
Johns, C.N. 1932, Excavations at 'Atlit. The south-eastern Cemetery, *Quarterly of the Department of Antiquities in Palestine* 2, 41-104.
Karageorghis, V. 1979, Chronique des fouilles et découvertes archéologiques, *BCH* 103, 671-724.
King, Ph.J./L.E. Stager 2001, *Life in Biblical Israel*, Louisville/London.
LaMotta, V.M./M.B. Schiffer 1999, Formation processes of house floor assemblages, in P.M. Allison (ed.), *The Archaeology of Household Activities*, London/New York, 19-29.
Lancel, S. 1979, Le secteur A (1974-1975), in S. Lancel (ed.), *Byrsa* I. *Rapports préliminaires des fouilles (1974-1976)*, Rome, 59-96.
Lancel, S. 1982a, Les sondages dans le secteur sud-ouest de l'îlot C (G IV 3/7, G IV 4, G III 15/16), in S. Lancel (ed.), *Byrsa* II. *Rapports préliminaires sur les fouilles 1977-1978: niveaux et vestiges puniques. Mission Archéologique française à Carthage*, Rome, 217-248.
Lancel, S. 1982b, Les niveaux funéraires, in S. Lancel (ed.), *Byrsa* II. *Rapports préliminaires sur les fouilles 1977-1978: niveaux et vestiges puniques. Mission Archéologique française à Carthage*, Rome, 263-364.
Lancel, S. 1985, Les pavimenta punica du quartier punique tardif de la colline de Byrsa, in P. Senay (ed.), *Carthage* VII. *Actes du Congrès international sur Carthage, Trois-Rivières, 10-13 octobre 1984*. II (Cahiers des Études Anciennes 17), Trois-Rivières, 157-177.
Lancel, S. 1995, *Carthage. A History*, Oxford/Cambridge Mass.
Lancel, S. 2002, Mission archéologique suédoise. Fouille

d'une tombe punique: 7 au 17 juin 1980, in C. Gerner Hansen (ed.), *Carthage. Results of the Swedish Excavations 1979-1983* I. *A Roman Bath in Carthage*, Stockholm, 122-123.
Lancel, S./J.-P. Thuillier 1979, Rapport préliminaire sur la campagne de 1976 (niveaux puniques), in S. Lancel (ed.), *Byrsa* I. *Rapports préliminaires des fouilles (1974-1976)*, Rome, 187-270.
Lamboglia, N. 1952, Per una classificazione preliminare della Ceramica Campana, in *Atti del I Congresso Internazionale di Studi Liguri, Monaco-Bordighera-Gênes, 10-17 aprile 1950*, Bordighera, 139-206.
Lullies, R. 1944, *CVA Deutschland* 6, *München, Museum Antiker Kleinkunst* 8, Munich.
Madau, M. 2000, La ceramica attica di Tharros: le nuove stratigrafie dalla città fenicia del Sinis, in Sabattini 2000a, 99-104.
Maffre, J.-J. 1971, Vases grecs de la collection Zénon Piéridès à Larnaca (Chypre), *BCH* 9, 627-702.
Mansel, K. 2003, Zeremonielle und rituelle Handlungen bei Baumaßnahmen. Zu phönizisch-punischen Bauopfern, in C. Metzner-Nebelsick (ed.), *Rituale in der Vorgeschichte, Antike und Gegenwart. Studien zur Vorderasiatischen, Prähistorischen und Klassischen Archäologie, Ägyptologie, Alten Geschichte, Theologie und Religionswissenschaft. Interdisziplinäre Tagung vom 1.-2. Februar 2002 an der Freien Universität Berlin*, Rahden in Westfalen, 129-148.
Mansel, K. forthcoming, Bauopfer, in Niemeyer et al. forthcoming.
Martín i Ortega, A. 2000, L'Oppidum del Puig de Sant Andreu d'Ullastret. Aportació de les intervencions arqueològiques recents al coneixement dels sistems defensius i de l'urbanisme, in R. Buxó/E. Pons (eds.), *L'habitat protohistòric a Catalunya, Rosselló i Llenguadoc occidental. Actualitat de l'arqueologia de l'Edat del Ferro. Actes del XXII Colloqui Internacional per l'Estudi de l'Edat del Ferro* (Museu d'Arqueologia de Catalunya Girona, Sèrie monogràfica 19), Girona, 107-121.
Massei, L. 1978, *Gli askoi a figure rosse nei corredi funerari delle necropoli di Spina*, Milano.
Massoul, M. 1935, *CVA France* 13, *Sèvres, Musée national de Sèvres* 1, Paris.
Merlin, A./L. Drappier 1909, *La nécropole d'Ard El-Khéraïb, à Carthage* (Notes et Documents publiés par la Direction des Antiquités et Arts de Tunis), Paris.
Mezzolani, A. 1999, Carrelages en briques cuites dans l'architecture punique, *REPPAL* 11, 157-168.
Moorey, P.R.S. 1980, *Cemeteries of the First Millennium B.C. at Deve Hüyük, near Carchemish, salvaged by T.E. Lawrence and C.L. Woolley in 1913 (with a catalogue raisonné of the objects in Berlin, Cambridge, Liverpool, London and Oxford)* (BAR International Series 87), Oxford.
Morel, J.-P. 1969, Kerkouane. Ville punique du Cap Bon, *MEFRA* 81, 473-518.
Morel, J.-P. 1981, *Céramique campanienne: les formes*. (BEFAR 244), Rome.
Morel, J.-P. 1982, Le Secteur B (1978), in S. Lancel (ed.), *Byrsa* II. *Rapports préliminaries sur les fouilles 1977-1978: niveaux et vestiges puniques*, Rome, 181-213.
Morel, J.-P. 2000, La céramique attique du IVè siècle en Afrique du Nord, in Sabattini 2000a, 259-264.
Niemeyer, H.G. 2004, Mythos und Geschichte, Orient und Okzident, in *Hannibal ad Portas. Macht und Reichtum Karthagos*, Karlsruhe/Stuttgart, 38-43.
Niemeyer, H.G./R.F. Docter et al. 1993, Die Grabung unter dem Decumanus Maximus von Karthago. Vorbericht über die Kampagnen 1986-91, *RM* 100, 201-244.
Niemeyer, H.G./R.F. Docter/A. Rindelaub 1995, Die Grabung unter dem Decumanus Maximus von Karthago. Zweiter Vorbericht, *RM* 102, 477-502.
Niemeyer, H.G./A. Rindelaub/K. Schmidt 1996, *Karthago. Die alte Handelsmetropole am Mittelmeer. Eine archäologische Grabung*, Hamburg.
Niemeyer, H.G./R.F. Docter et al 2002, Excavación bajo el Decumanus Maximus de Cartago durante los años 1986-1995: informe preliminary, in M. Vegas (ed.), *Cartago fenicio-púnica. Las excavaciones alemanas en Cartago 1975-1997* (Cuadernos de Arqueología Mediterránea 4), Barcelona, 47-109.
Niemeyer, H.G., R.F. Docter, K. Schmidt, B. Bechtold et al. forthcoming. *Karthago. Die Ergebnisse der Hamburger Grabung unter dem Decumanus Maximus*.
Oppermann, S. 1979, Zinnober, in K. Ziegler/W. Sontheimer (eds.), *Der Kleine Pauly. Lexikon der Antike* V, München, 1535-1536.
Padro i Parcerisa, J. 1983, *Egyptian-Type Documents from the Mediterranean littoral of the Iberian Peninsula before the Roman conquest* II. *Study of the material. From western Languedoc to Murcia*, Leiden.
Peserico, A. 2002, *Die offenen Formen der Red Slip Ware aus Karthago. Untersuchungen zur phönizischen Keramik im westlichen Mittelmeerraum* (Hamburger Werkstattreihe zur Archäologie 5), Münster/Hamburg/London.
Picard, G.Ch. 1946-1949, Rapport sur l'archéologie romaine en Tunisie dans le premier semestre 1949, I. Carthage - Fouille de Dermèche, *Bulletin Archéologique du Comité des Travaux Historiques et Scientifiques* 1946-1949, 676-678.
Pisano, G. 1988, I gioielli, in S. Moscati (ed.), *I Fenici*, Milano, 370-393.
Popa, R. 1978, *Kãmid el-Lõz* 2. *Der eisenzeitliche Friedhof. Befunde und Funde*, Bonn.
Rakob, F. (ed.) 1991a, *Die deutschen Ausgrabungen in Karthago. Karthago* I, Mainz a.R.
Rakob, F. 1991b, Pavimenta punica und Ausstattungselemente der punischen und römischen Häuser, in Rakob 1991a, 220-225.
Rakob, F. 1995, Forschungen im Stadtzentrum von Karthago. Zweiter Vorbericht, *RM* 102, 413-474.
Rakob, F. (ed.) 1999, *Die deutschen Ausgrabungen in Karthago. Karthago* III, Mainz a.R.
Rakob, F. 2002, Cartago. La topografía de la ciudad púnica. Nuevas investigaciones, in M. Vegas (ed.), *Cartago fenicio-púnica. Las excavaciones alemanas en Cartago 1975-1997* (Cuadernos de Arqueología Mediterránea 4), Barcelona 15-46.
Ramos Sainz, M.L. 1990, *Estudio sobre el ritual funerario en las necrópolis fenicias y púnicas de la Península Ibérica*, Madrid.
Robinson, D.M. 1950, *Vases found in 1934 and 1938, Excavations at Olynthus* XIII, Baltimore/London/Oxford.
Ruano Ruiz, E. 1996, *Las cuentas de vidrio prerromanas del Museo Arqueológico de Ibiza y Formentera* (Trabajos del Museo Arqueológico de Ibiza 36), Eivissa.
Rudolph, W.W. 1971, *Die Bauchlekythos. Ein Beitrag zur Formgeschichte der attischen Keramik des 5. Jahrhunderts v. Chr.*, Bloomington (Indiana).
Sabattini, B., ed. 2000a, *La céramique attique du IVe siècle en Méditerranée occidentale. Actes du colloque international organisé par le Centre Camille Jullian, Arles, 7-9 décembre 1995*, Naples.
Sabattini, B. 2000b, Les skyphoi du F.B. Group à Spina: apport chronologique de l'étude stylistique et typologique, in Sabattini 2000a, 47-65.
Schmidt, K. 1997, *Punische Pavimente in Karthago. Entstehung*

und Entwicklung (Thesis Universität Hamburg).
Schmidt, K. forthcoming, Bautechnik, Putz und Stuck, Pavimente, Zisternen, in Niemeyer et al. forthcoming.
Seefried, M. 1982, *Les pendentifs en verre sur noyau des pays de la Méditerranée antique* (Collection de l'École Française de Rome 57), Rome.
Singh, A.K./B.K. Jain/K. Chandra 1978, Mössbauer studies of naturally occurring red ochre and yellow ochre, *Journal of Physics D: Applied Physics* 11, 55-62.
Sonneveld, J./R.F. Docter forthcoming, Glass of the Punic period, in Docter forthcoming c.
Spanò Giammellaro, A. 2004, Phönizier und Punier in Sizilien, in *Hannibal ad Portas. Macht und Reichtum Karthagos*, Karlsruhe/Stuttgart, 184-207.
Sparkes, B.A./L. Talcott 1970, *Black and Plain Pottery of the 6th, 5th and 4th Centuries B.C.* (The Athenian Agora XII), Princeton.
Stager, L.E. 1982, Carthage: A View from the Tophet, in H.G. Niemeyer (ed.), *Phönizier im Westen. Die Beiträge des Internationalen Symposiums über "die phönizische Expansion im Westlichen Mittelmeerraum" in Köln vom 24. bis 27. April 1979* (Madrider Beiträge 8), Mainz am Rhein, 155-166.
Stager, L.E. 1992, Le tophet et le port commercial, in A. Ennabli (ed.), *Pour sauver Carthage. Exploration et conservation de la cité punique, romaine et Byzantine*, Paris/Tunis, 72-78.
Stager, L.E./S.R. Wolff 1984, Child Sacrifice at Carthage - Religious Rite or Population Control?, *Biblical Archaeology Review* 10, 31-51.
Trendall, A.D. 1967, *The Red-Figured Vases of Lucania Campania and Sicily*, Oxford.
Trendall, A.D. 1987, *The Red-Figured Vases of Paestum*, Rome.
Trendall, A.D. 1989, *Red Figure Vases of South Italy. A Handbook*, London.
Trias, G. 1999, Greek Pottery from Carthage. German Mission, in Rakob 1999, 259-288.
Vegas, M. 1984, Archaische Keramik aus Karthago, *RM* 91, 215-237.
Vegas, M. 1986, Céramique archaïque de Carthage, in P. Senay (ed.), *Carthage* IX. *Actes du Congrès international sur Carthage. Trois-Rivières, 10-13 octobre 1984: quatrième partie* (Cahiers des Études Anciennes XIX), Trois-Rivières, 121-133.
Vegas, M. 1999, Phöniko-punische Keramik aus Karthago, in Rakob 1999, 93-219.
Vegas, M. 2000, La cerámica fenicia del siglo VIII en Cartago, in M.E. Aubet/M. Barthélemy (eds.), *Actas del IV Congreso Internacional de Estudios Fenicios y Púnicos, Cádiz, 2 al 6 de Octubre de 1995*, Cádiz, 1237-1246.
Vegas, M. 2002, Alfares arcaicos en Cartago, in M. Vegas (ed.), *Cartago fenicio-púnica. Las excavaciones alemanas en Cartago 1975-1997* (Cuadernos de Arqueología Mediterránea 4), Barcelona, 147-164.
Wolff, S.R. 1986, Carthage and the Mediterranean: imported amphoras from the Punic Commercial Harbor, in P. Senay (ed.), *Carthage* IX. *Actes du Congrès international sur Carthage. Trois-Rivières, 10-13 octobre 1984: quatrième partie* (Cahiers des Études Anciennes XIX), Trois-Rivières, 134-153.

BABETTE BECHTOLD
RADEGUNDER STRAßE 120D
A-8045 GRAZ
babette_bechtold@yahoo.com

ROALD F. DOCTER
VANESSA DECLERCQ
TIJS DE SCHACHT
ELINE DEWEIRDT
KAREN RYCKBOSCH
BIRGIT TAVERNIERS
JULIE VAN KERCKHOVE
LIEVEN VERDONCK
DEPARTMENT OF ARCHAEOLOGY
AND ANCIENT HISTORY OF EUROPE
GHENT UNIVERSITY
BLANDIJNBERG 2
B-9000 GENT
roald.docter@ugent.be

ALAIN DE WULF
DEPARTMENT OF GEOGRAPHY
GHENT UNIVERSITY
KRIJGSLAAN 281 (S8)
B-9000 GENT
alain.dewulf@ugent.be

FETHI CHELBI
HAMDEN BEN ROMDHANE
LAMIA FERSI
SOUMAYA GARSALLAH
JELAL MABROUK
SIHEM ROUDESLI CHEBBI
MUSÉE NATIONAL DE CARTHAGE
CARTHAGE

BOUTHEINA MARAOUI TELMINI
UNIVERSITÉ DE TUNIS I
BOULEVARD DE 9 AVRIL
TN-1002 TUNIS
boutheina.telmini@fshst.rnu.tn

SUZANNE FREY-KUPPER
CH-1408 PRAHINS
suzanne.frey@dplanet.ch

INEKE JOOSTEN
NETHERLANDS INSTITUTE FOR
CULTURAL HERITAGE (ICN)
POSTBOX 76709
NL-1070 KA AMSTERDAM
ineke.joosten@icn.nl

HANS KOENS
AMSTERDAM ARCHAEOLOGICAL
CENTRE
UNIVERSITY OF AMSTERDAM
NIEUWE PRINSENGRACHT 130
NL-1018 VZ AMSTERDAM
hkoens@fmg.uva.nl

TAOUFIK REDISSSI
INSTITUT NATIONAL DU
PATRIMOINE
4 PLACE DU CHATEAU
TN-1008 TUNIS

KARIN SCHMIDT
ARCHAEOLOGICAL INSTITUTE
UNIVERSITY OF HAMBURG
JOHNSALLEE 35
D-20148 HAMBURG
karineva.Schmidt@web.de

BABesch 81 (2006, 91-133. doi: 10.2143/BAB.81.0.2014425)

The Birth of a Roman Southern Italy: a Case Study
Ancient written sources and archaeological evidence on the early Roman phase in the Salento district, southern Italy (3rd-1st century BC)

Douwe G. Yntema

Abstract

This paper focuses on southeast Italy in the 2nd century BC. This was the crucial period in which the foundations of Roman Italy were laid. The image of post-Hannibalic southern Italy was mainly constructed on the basis of ancient written sources. Three fundamental questions are discussed. The first question concerns the nature of both the archaeological evidence and the ancient written sources on this area. The second question explores the reliability of the pictures each of these seems to present. The third question concerns the relationship between these pictures. Can they be integrated in order to present a new and fairly coherent narrative?

1. INTRODUCTION[1]

This paper deals with a number of aspects of the 170-180 year period following the Roman incorporation or conquest of the district of Salento, Italy, in the second quarter of the 3rd century BC. The Salento district is situated in southern Italy, where it forms the heel of the Italian boot (*fig. 1*). According to the ancient Greek author Strabo, *Brentesion* (Brindisi) and *Taras* (Taranto) were the only more or less decent towns there in the early Imperial age, while the same district reportedly had quite a number of important settlements (*poleis*) in pre-Roman times (Strabo, *Geography* 6.3.5). However, my concern is not with Taranto, a town on the western fringes of Salento inhabited by people who called themselves Greeks. Instead, this paper discusses the district inhabited at the time of the Roman conquest by a non-Greek, 'native' population often referred to as the 'Messapians'.

The present paper complements an article on a similar subject (Romanization) published a few years ago (Yntema 1995a). In that article I used the black-box system, comparing the archaeological evidence for various aspects of the period preceding the Roman occupation with evidence for the same aspects in the period following Roman intervention. Continuity and change between the two periods were highlighted and explanations offered when the patterns observed in the data seemed to suggest them. Since the *de facto* incorporation of Salento into the Roman state must have entailed an integration process of a native-Italic society, the 1995 paper explored the usefulness of the Romanization concept that Martin Millett applied to Britain (dialogue between Roman and 'native' culture) in the regional context of Salento (cf. Millett 1990). It emerged that although many things changed in the first two centuries after the Roman triumph over the native groups in Salento, very few could be directly linked to

Fig. 1. Salento and surrounding area: sites mentioned in the text.

the dialogue between the native societies of Salento and the Roman world of the 3rd and 2nd centuries BC. The Salento groups were in fact engaged in a much broader 'cultural conversation' involving native-Italic speakers with various roots (Messapians, Oscans, Campanians, Latins, Romans etc.) and different types of Greeks (e.g. Italiote, Siciliote, Aegean and Alexandrinian Greeks). I concluded that most of the changes affecting Salento in the first two centuries after the Roman conquest were certainly not the result of Romanization, irrespective of how we define the term. The vast majority would probably have occurred - though perhaps not with the same intensity or at the same pace - even if the Romans had decided *not* to intervene and had not succeeded in conquering the Salento district. Material, economic, socio-political and religious features of early Roman Salento actually appear to have derived from a wide range of Italic and eastern Mediterranean cultures. The dialogue model, with its only slightly veiled bipolarity (native versus Roman culture), appears too simple and too antithetic for Salento and perhaps in general. Becoming Roman in Salento implied much more than an intense dialogue between two cultures. The concept leaves insufficient room for the substantial regional diversities of southeastern Italy and the probably even greater regional diversities of the eastern Mediterranean. Moreover, contacts with a wide range of other cultural groups confronted the inhabitants of Salento with various possibilities: they could accept, ignore or reject features of the cultures with which they came into contact (see also Curti et al. 1996; Terrenato 1998). These cultures included the Romans, the neighbouring native groups of the Lucanians and Peucetians, the neighbouring Greeks from Taranto, Epirus and Corfu, and the distant Ephesians, Rhodians or Alexandrinians who may have visited Salento ports.

The basic aim of the present paper is to contribute to our understanding of a southern Italian district (Salento) during the first 170 to 180 years of Roman rule. Since I have previously discussed (Yntema 1993a, 195-213; Yntema 1995a) several aspects emerging from data recovered by archaeological methods such as excavations and field surveys, the subject of this paper is to evaluate the archaeological evidence and data from written sources about the post-conquest period in the light of one another. Both types of sources are discussed. The present paper hopes to suggest answers to three fundamental questions. The first concerns the nature of both the archaeological evidence and the ancient written sources. What exactly are they and what kind of picture do they present? The second question involves interpretation. Are the pictures they present legible and sufficiently reliable for the period under discussion or do they evoke a hazy, somewhat panoramic landscape, fusing a range of clichés and/or centuries into a single, blurred and badly distorted image? The third question concerns the relationship between the archaeological evidence and the ancient written sources on Salento. Are the pictures constructed on the strength of each type of source more or less compatible with one another? Can they be integrated to present a fairly coherent narrative about early Roman Salento, or are they contradictory, and do we need to explain why they differ so much?

The period selected covers the later 3rd, the 2nd and the early years of the 1st centuries BC. This is the time between the Roman conquest of the Salento district (267/266 BC) and its *de iure* incorporation into the Roman state as a result of the Social War in 90/89 BC. These two events have not been chosen as the chronological boundaries for this paper because of their undoubted milestone status in Salento history. Instead, the delimitations are fairly arbitrary. Events like these are unlikely to have such strongly 'delimiting' properties. When the people of Salento technically became Romans in 90/89 BC, they did not suddenly start to speak Latin or to think Roman. The main reason for selecting this particular period is the existence of both a substantial body of archaeological evidence and a range of written sources concerning those years in the Salento peninsula. The preceding era (4th/early 3rd century BC) is rich in archaeological evidence, but poor in ancient written sources, while evidence of both types is scarce for the late Republican and early Imperial periods. However, we should also concede that there is little ancient written evidence from about the mid-2nd century BC onward.

The main focus, therefore, will be on the first hundred years of indirect Roman rule. The sources on early Roman Salento discussed here may offer valuable information about this period of crucial change in the region's history - the period in which Salento became integrated into the Mediterranean world of Hellenistic-Roman times. In the following section I briefly outline the events surrounding the Roman actions that made up the conquest/occupation of Salento in the second quarter of the 3rd century BC. I then discuss the ancient written sources (section 3), and briefly examine the archaeological data (section 4).

Section 5 presents the narrative that can be constructed on the strength of evidence from the present research. In the concluding section, I suggest answers to the three fundamental questions formulated above. This section in effect summarizes sections 3 and 4, which discuss the nature and interpretation of both the archaeological evidence and ancient written sources, and seeks to make explicit the relationship between both types of sources as this emerges from the narrative in section 5.

2. THE ROMAN CONQUEST OF SALENTO

Salento is Italy's gateway to the eastern Mediterranean. Separated from the Balkans by the merely 70-km wide Strait of Otranto, it is an almost mandatory stopping place for those going to or coming from Greece. The district has often been regarded as the backyard of the colonial-Greek settlement of Taranto, which was reportedly founded in the late 8th century BC. The indigenous population who - according to Greek authors of the 6th, 5th and early 4th centuries BC - inhabited this area were usually labelled 'Messapians'.[2] The Messapian groups, however, were not exclusively linked to Taranto. They appear to have had a much wider range of external contacts during the period under discussion, for instance with parts of the Corinthian Gulf, Corfu and present-day Albania across the Adriatic and the Metaponto district and the north-Apulian Daunians of southern Italy.[3]

There is evidence to suggest that the focus of the Salento groups gradually turned to Taranto from about 370/350 BC. There is probably a close link between the tremendous boom of Taranto and the great prosperity of the native districts surrounding that Greek polity during the later 4th and early 3rd centuries (Yntema 1993a, 1995). Perhaps common interests resulting from this primarily economic tie (although there may have been social and political links as well) prompted the Tarantine Greeks and Messapian natives to unite when a dangerous conflict with Rome broke out in the 80s of the 3rd century BC. The Sallentinian native populations sided with Taranto in the polis's conflict with Rome over the supremacy of southern Italy. After the Greek *condottiere* Pyrrhus of Epirus, who had assisted the Tarantines in their struggle against Rome, left Italy in order to try his luck elsewhere, the weak southern coalition consisting of a series of Italiote towns headed by Taranto and various non-Greek polities in southern Italy was unable to withstand the Romans. In 272 BC Taranto fell into Roman hands. Soon after the capture of the Greek town, the native Salento districts were conquered by the Romans. This happened in the years 267-266 BC, making Salento the last district in peninsular Italy to be incorporated into the expanding Roman state.

The *Fasti Triumphales Capitolini* commemorate the Roman successes in Salento by mentioning two triumphs for the years 267/266 BC. They record the names of the Roman commanders who were responsible for these glorious deeds and who were accordingly permitted to celebrate a triumph: consuls M. Attilius Regulus and L. Iulius Libo on 25 January of the Roman year 486 *a.U.c. 'de Sallentineis'*, and consuls N. Fabius Pictor and D. Iunius Pera on 7 February of the year 487 *a.U.c. 'de Sallentineis Messapeisque'*. Livy offers no account of these events: his ten books covering the periods between the Samnite wars and the second Punic war are lost. The conquest is very summarily mentioned in Florus' *Epitome* (1.3.1-2) and in the *Periocha* of Livy's 15th book.[4] The general tenor of these and other written sources is that the Romans believed the Salento peninsula to be inhabited by two tribes - the *Calabri* and the *Sallentini* (cf. Lombardo 1992; Lomas 1993).[5] The former gave its name to the district in Roman times (Calabria),[6] while the latter survives in the present-day geographical name of the peninsula - *Salento* or *Penisola Salentina*.

It should be noted that while Greek writers of the 6th, 5th and 4th centuries called the natives of Salento 'Messapians', the Greek and Roman authors of the late Hellenistic/early Roman period often suggested that the district was inhabited by two tribal groups - the *Calabri* and the *Sallentini* (most authors). This discrepancy can be explained in several ways. On the one hand, the earlier label 'Messapians' may have been a general term given by outsiders such as Greeks to the population of the entire area, or it may be the ethnic label for just one group in the area. In this latter explanation the term 'Messapians' is a kind of collective noun covering a complex tribal reality (cf. the similar use of names such as Bruttians, Lucanians, Samnites etc.). An interpretation in this vein is suggested by Strabo's texts (see note 5). On the other hand, tribal structures are less stable socio-political units than states. Fission and fusion are inherent in tribal groups: a tribe may split up into new tribes or two or more tribes may fuse into one.[7] The coexistence of the names *Messapii*, *Calabri* and *Sallentini* in the works of Greek and Roman authors, all used for people inhabiting the

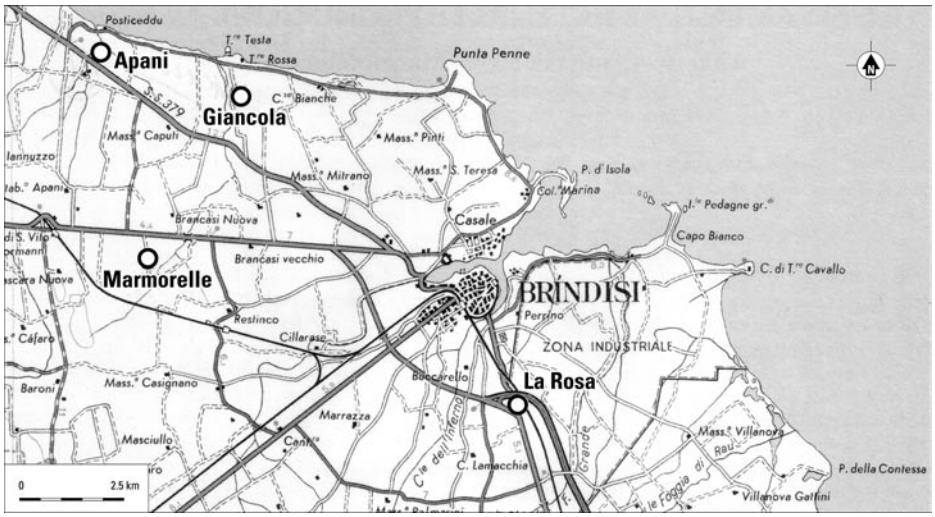


Fig. 2. Brindisi and surrounding area: sites mentioned in the text.

same district, may be due to the fact that the original Messapian tribe split into two subtribes at some point of its history.

In this paper, I generally refer to the native inhabitants of the Salento peninsula as 'Messapians'. This label (probably of Greek origin) is used for the sake of convenience only. I occasionally replace it with the possibly more correct term *Calabri/Sallentini*. The term 'Messapic' is reserved here for the language (of the Illyrian branch) spoken by the various native groups who in pre-Roman times inhabited the area of present-day Apulia (i.e. the people referred to as Iapygians, Messapians, Calabrians, Sallentinians, Peucetians and Daunians in the Greek and Roman written sources).

From 267/266 onward Salento was a - or perhaps more than one - *de facto* client state of the Romans (cf. Salmon 1982). No peace treaties or provisions have been preserved regulating relations between Rome and defeated states or tribes for the 3rd century BC. Mostly, the terms of peace have been extrapolated in a very general way from treaties with other Italian or Mediterranean districts in the 4th or 2nd centuries BC (cf. Lomas 1993, 77 ff.). Therefore we do not know which official status the Romans granted to the *Calabri* and *Sallentini*. The treaty binding the Messapians to Rome must have been based on the so-called *Foedus Cassianum* (cf. Salmon 1982, Lomas 1993). Since we do not know its contents, it is uncertain what rights the *Calabri* and the *Sallentini* had and what obligations they had to the Roman state. They were almost certainly obliged to supply troops in case of war. Polybius (2.24,10-11) seems to confirm this by including both Iapygians (in this text probably the north and central Apulian tribal groups)[8] and the Messapians of southern Apulia in his long list of Roman and allied forces drawn up for 225 BC. Since the Romans mostly allowed defeated groups to manage their own internal affairs as long as they met their obligations towards Rome (cf. Salmon 1982), the Salento native populations may have been permitted to govern their own territories in much the same way as they had before. Of course, their contacts with other *socii* of Rome and with 'foreign' states such as the Greek polities across the Adriatic had to be strictly in line with Rome's wishes.

This, then, was probably more or less the general situation immediately after the Roman conquest in the outlying Italian district of Salento, some 400 miles southeast of Rome. The tribes of the *Sallentini* and *Calabri* licked their wounds, met their obligations towards Rome and quietly continued to mind their own internal affairs. Initially, it was in many ways business as usual in post-Roman-conquest Salento. Soon, however, a new Roman initiative was to change the native world of the district decisively. For reasons unknown, the Senate in Rome decided to found a Latin colony in Salento. This actually happened on 5 August 246 or 244 BC, when the *colonia latina* of *Brundisium* came into existence (e.g. Sirago 1993). The foundation of the colony doubtlessly resulted in an influx of central Italians who settled on former Messapian lands, which means that these lands must have been confiscated at some time between 266 and 244 BC. The actual number of settlers is unknown, but is estimated to be in the order of 2,000 to 2,500 (Clemente 1988).

The Latin *colonia* was not a completely new settlement, however. Brindisi had its origins in the Bronze Age and has probably been continuously inhabited to the present day.[9] On the eve of the foundation of the *colonia latina*, the town of Brindisi may have been an indigenous settlement of some standing. It was probably one of the walled *oppida* of the *Calabri* (Marasco 1988; Burgers 1998; Lippolis/Baldini Lippolis 1997). Its name is said to derive from the Messapic word for stag's antlers (*brention*, *brenta*):[10] the settlement is situated on a rise between two inlets that roughly resemble antlers (*fig. 2*). Since the settlement has been inhabited without interruption to the present day, the pre-Roman (but also Roman) remains can only be found in small 'urban' digs and are therefore very poorly known. For this reason we cannot establish with certainty the exact status of the town of Brindisi in the pre-Roman settlement system of the district of the *Calabri*.

The foundation of a *colonia latina* at Brindisi had serious consequences for regional power structures in Salento. While the Calabrian and Sallentinian decision-making bodies constituted the sole political system during the 4th and early 3rd centuries BC, it is plausible that two different political systems existed side by side from 246/244 BC onward: the traditional Messapian system still survived, while the *colonia latina*'s political system would have been a close copy of that of Rome. In addition, various factors caused Brindisi to become the regional centre of power. The elite families of several shrinking native *oppida* in the Brindisi district are likely to have converged upon this booming town (cf. Yntema 1995a, 164-165). The foundation of the *colonia* actually marked the beginning of integration between the local Messapic-speaking groups and an increasingly large group of newcomers consisting of Latin speaking settlers and others - including Greeks - who were attracted to Brindisi in particular and Salento in general. The town was rapidly becoming a focal point in the intensified Mediterranean trade networks of Hellenistic times (cf. Marasco 1988, Yntema 1995a). Since Rome fought a series of wars against Greek polities of the eastern Mediterranean in the 2nd century BC, Greek slaves may also have become part of the Salento population in the period discussed in this paper.

3. ANCIENT WRITTEN SOURCES

The literary sources on early Roman Salento are not very numerous. The area was far from being a centre of political power in the period under discussion. The 'literary' texts have been collected in Lombardo's *I Messapi e la Messapia nelle fonti letterarie greche e latine* (Lombardo 1992), and consist of relatively short, highly dispersed passages in Greek and Roman authors like Polybius, Ennius, Livy, Cicero and Varro. Inscriptions also inform us about early Roman Salento and its inhabitants. Some are in Greek, and a few in Latin (cf. Susini 1962). There are probably quite a few inscriptions in the regional Messapic language which date to the later 3rd and 2nd centuries BC. The vast majority have been collected in the *Corpus Inscriptionum Messapicarum* (Ribezzo/Santoro 1978). As a rule they can be dated only very approximately on epigraphical grounds (the shape of the letters etc.). They are not always easy to decipher and stem almost exclusively from burials and sanctuaries. Because of their religious and funerary nature, the inscriptions in Messapic appear to contain mainly personal names and standard formulas. A large and highly interesting body of Messapic inscriptions from the *Grotta della Poesia* sanctuary at the site at Rocavecchia (north of Otranto) remains unpublished.[11]

Regarding Salento's history, the Roman conquest and pacification of the district was described in Livy's now lost second decade. From that time onward Salento was essentially an outlying district of an increasingly Romanized Italy. The district was some 600-700 km from Rome, the centre of power in Italy. The distance to the major Greek centres of the eastern Mediterranean was even greater. Therefore, most Greek and Roman authors were not even marginally interested in Salento. Only in the event of any kind of contact between Italy and the eastern Mediterranean did Salento enter into the picture. The region served as a stepping stone for travel, trade, commerce and military activities to and from the southern Balkans and other parts of the eastern Mediterranean. Since travel and trade were everyday activities in the Hellenistic and Roman world, they were hardly worth mentioning. But once the southern Balkans and Italy belonged to different and - in particular - conflicting polities, Salento suddenly featured in the written sources. Just as Sicily throughout its long history was a gateway for moves from Italy towards Africa and vice versa, Salento was the gateway for 'Italian' ventures into the eastern Mediterranean.

In view of the above, it is clear that references to Salento and the Salentine situation were mostly made only in passing in the Greek and Roman written sources of the Greek-Hellenistic and Roman Republican periods. Moreover, these writings often

do not refer to events, but to the district's economy and geography (e.g. Strabo). Invariably, we can view the inscriptions as personal documents that can hardly be expected to make a significant contribution to our understanding of the much wider world of the native-Roman societies of Salento of the 3rd and 2nd centuries BC. Together these written sources are unlikely to offer a clearly comprehensible picture of the region in the period between the Roman conquest and the Social War. They may, however, give us interesting glimpses into Salento societies in the period following the Roman conquest of 267/266 BC.

The specific, almost casual nature of the sources on early Roman Salento has both advantages and drawbacks. With regard to the former, such casual remarks clearly do not have a strong ideological charge. For instance, when Livy (42.27.8; on the year 172 BC) states that 'three commissioners were sent to Apulia and Calabria in order to buy corn for the Roman navy and army', there is a good chance that Apulia and Calabria produced a surplus of cereals. There are reasons to believe that this was in fact the case and that surplus production of corn was a structural element in the regional economy, since other sources about approximately the same period contain the same or very similar information (e.g. Appian 7.35 on the year 211 BC; Varro, *De Re Rustica* 2.6.5: on the later 2nd or early 1st century BC).

However, there are obvious and serious drawbacks with these types of sources. First and foremost, of course, is their extreme patchiness: we peer into hazy landscapes, each with one or two small, bright spots. Secondly, we should bear in mind that the ancient authors who wrote these passages were almost invariably outsiders: the vast majority had never visited the Salento district and were recording second- or third-hand information derived from the Roman annalistic tradition or other sources. Thirdly, we need to remember that Salento was a *de facto* conquered area. It is generally acknowledged today that such districts may have been described in cliché terms in Graeco-Roman literature. On the one hand, conquered urban societies with strongly centralized forms of government such as Salento were believed to have been negatively affected by the Roman conquest and were said to have suffered decline: they are characterized in the written sources by economic crisis, depopulation and extensive forms of stock raising (cf. Alcock 1993, 1 ff.; Lomas 1993, 115). In Roman eyes, becoming Roman in these areas meant loss of prosperity, loss of culture and loss of identity. On the other hand, ancient writers describe conquered (mainly tribal) societies that originally had dispersed forms of settlement in precisely the opposite terms. There, becoming Roman meant a transformation from barbarians to new men (Dench 1995): poor and warlike 'savages' became prosperous town dwellers and, ultimately, Romans. In Roman eyes, these people benefited greatly from the blessings of Roman civilization and culture. We should therefore be alert to this potential bias in the ancient written sources. A fourth and final bias can be found in interpretations by recent historians of the ancient sources about southern Italy in the Roman-Republican period (cf. especially Toynbee 1965). Toynbee's belief that the Roman occupation of southern Italy and Hannibal's prolonged stay there had disastrous consequences has had a major impact on subsequent research (cf. Gabba/Pasquinucci 1979; Sirago 1993). It has been a widely-held view that the basis was laid in the 3rd century BC for the poor, sheep-rearing Mezzogiorno, characterized by large ranches and absentee landlords, politically dominated and economically looted by foreign overlords.[12] The 20th-century *Mezzogiorno* clichés also contributed significantly to the rather bleak picture that was currently being constructed for Roman southern Italy (Gabba et al. 2001, 29).

The specific nature of the written sources on Salento as shown above means that ancient authors highlighted only a few aspects of Salento societies of the late 3rd, 2nd and early 1st centuries BC. These related to transport routes, the economy, uprisings and people of Messapian descent. They will be discussed in the following sections.

3.1. Transport routes

The Salento road systems have been discussed at considerable length by Giovanni Uggeri (1975, 1983). By the late 4th century BC, the Messapian *oppida* were connected by roads which, given the fairly considerable surplus production of the area (cf. Yntema 1982, 1993), must have surpassed the humble status of mere paths through the wilds of Salento (*fig. 3*).[13] Some of the existing roads were upgraded by the Romans for both military and economic purposes. One example is the southwest-northeast road that crossed the Salento isthmus from Taranto to Brindisi (becoming the last stretch of the *via Appia*), and the northwest-southeast road that followed the Adriatic coast, known to Horace as the *via Minucia* (in *Epistulae* 1.18.20) and renamed in Imperial times as the *via Traiana Calabra*. They enabled travellers to proceed with

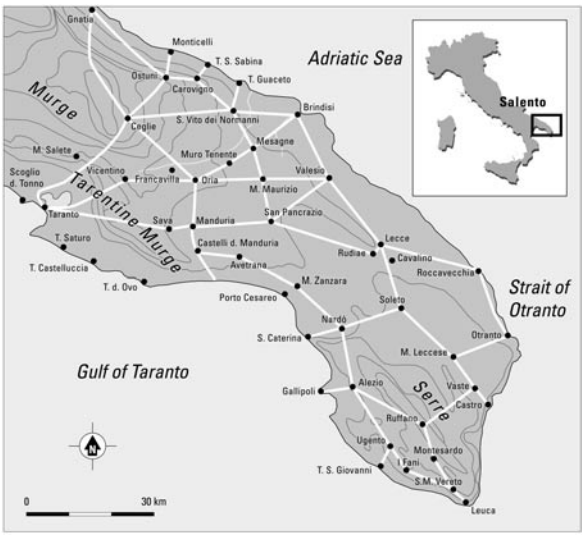


Fig. 3. Pre-Roman road system in Salento (adapted from Uggeri 1975).

considerable speed, as demonstrated by M. Porcius Cato who reportedly covered the distance between the Salento port of Otranto and Rome (some 700 km) within five days; this occurred under rather stressful conditions in 191 BC (Livy 36.2.6). In early Augustan times, the poet Horace took the *via Minucia/Calabra* in the opposite direction at a much more leisurely pace (*Sermones* 1.5.77-104).

The economic importance of the Salento road system in Republican times is stressed in a celebrated passage in Varro,[14] which suggests that *mercatores* with mule trains transported olive oil, wine, corn and other commodities from the northern Salento plain to Brindisi on the coast. The Salento roads were therefore vital to the transportation of agricultural products to Brindisi, where they could be consumed or packed and shipped on to destinations across the seas.

The town of Brindisi, 'belted by a beautiful fair haven',[15] is generally regarded as one of the major ports of Roman Italy from the 2nd century BC. It continued as such until the late Empire when it was gradually outstripped by the more southerly Otranto (e.g. Marasco 1988; Sirago 1993). There is reason to believe that the town performed a similar, though decidedly less important, function in pre-Roman times (Marasco 1988). The first signs of Brindisi's newly acquired importance in a Roman context can be found in Polybius, who states that the town was both point of departure and point of return for the sizeable Roman forces setting out for the Illyrian war in 229 BC (Polybius, *Historiae* 2.11.7). While the second Punic war drew Roman attention to other parts of the Mediterranean world, Brindisi's role in the trans-Adriatic link became especially marked when Rome began meddling in Greek affairs from the early 2nd century onward. Lombardo (1992) presents a substantial series of texts by both Polybius and Livy suggesting that Brindisi became a crucial base for provisioning the Roman armies and a departure point for military activities in Greece and other parts of the eastern Mediterranean in the first half of the 2nd century BC. Brindisi continued as a major port in Cicero's time.[16] A few years after his consulship, Cicero attended celebrations there of the town's anniversary. The date, 5 August 57 BC, was also the birthday of his daughter Tullia, who happened to be waiting for him at Brindisi on his return from exile in Thessalonica and Dyrrachium (Cicero, *Ad Atticum* 4.1.4).

3.2. Economy

The information on the Salento economy in early Roman times that can be derived from ancient written sources is very scarce indeed. I have referred above to the general view of historians that the consequences of Hannibal's stay in southern Italy were rather disastrous; some believed that the area never truly recovered (e.g. Toynbee 1965; Gabba/Pasquinucci 1979; Sirago 1993). If we focus on Salento, however, it appears that the presence of Carthaginian troops was mainly confined to Taranto and its immediate surroundings. Salento probably had a particularly unpleasant summer in 213 when Hannibal is reported to have roamed through the peninsula. Some *Sallentinorum ignobiles urbes* defected to him that year (Livy 25.1.1). The actions of Rome to retake Taranto and the 'Sallentinian towns not worth mentioning' once again made Salento the scene of war in 209 BC.[17] Thus the war damage in Salento may not have been as disastrous as often supposed (cf. Lomas 1993, 117-119). While several towns may have sustained damage and animals may have been taken by passing troops, agriculture - a major source of wealth - is unlikely to have sustained long-term damage.[18]

Written sources on the agrarian sector in Salento covering the post-Hannibalic period seems to support this. Salento actually exported wine, cereals and olive oil at this time (e.g. Varro, Livy, Appian, Velleius Paterculus; see texts in Lombardo 1992).[19] The sources attesting to the importance of Brindisi harbour have been briefly touched on in section 3.1 above. It therefore follows that Brindisi must have been a thriving town that developed

into the region's primary economic centre (cf. Marasco 1988). This evidence - together with Brindisi's early 2nd-century role as provisioning base for the Roman armies in Greece - suggests that Salento produced a regular surplus of cash crops.

It would therefore appear that the bad reputation southern Italy earned in Roman times does not in any case apply to early Roman Salento. The passages cited to reinforce this view (see Toynbee 1965, Gabba/Pasquinucci 1979, Sirago 1993) refer to other parts of southern Italy or to other periods of Roman history, or are simply instances of invented history. This is illustrated in a passage from Strabo who, writing explicitly about Salento, stated: 'Once this whole area was densely populated and had thirteen towns. But now these are small settlements, except for Brindisi and Taranto. So badly off are they' (Strabo, *Geography* 6.3.5). The passage was written during the reign of Augustus and tells us only that many Salento towns had dwindled into insignificance. However, the preceding sentences in the same passage from Strabo tell us that the soils were of excellent quality, that there were good pastures and that it was rich in trees, including fruit trees. The decline in the *urban* population described by Strabo in Augustan times was used by ancient historians to portray early Roman Salento in particular, and southern Italy in general, as a world in decline, with the usual cliché characteristics: (a) there were no - or few - larger settlements, i.e. centres of culture, (b) it was sparsely populated (*oligoandreia*) and (c) there was sheep rearing and extensive forms of agriculture. It is of course likely that sheep rearing was practised in southern Apulia. For instance, there may have been substantial flocks in the less fertile limestone hills (the *Murge*) in northern Salento at both ends of which there were towns - Taranto and Canosa - widely renowned for their excellent wool and fine woollen clothes (Roman *Canusium*; cf. Morel 1978). But the presence of these activities does not indicate a decline in agriculture.

3.3. Uprisings/resistance

Ancient historians have used two passages in Livy to underline the increasing importance of extensive stock raising at the expense of agriculture (Livy 29.29.8 and 29.41.6). These relate to the years 185 and 184 BC, in which 'slave' revolts are mentioned '*in Apulia*'.[20] In the first Livy passage, large groups of herdsmen (*pastores*) are said to have conspired, robbed and looted (Livy implies that some 7,000 people were executed). In the second passage, the 'conspiracies' of these herdsmen and investigations resulting from the *senatus consultum de Bacchanalibus* of 186 BC are mentioned in the same breath. In both cases the *praetor* responsible for Taranto (*praetor cui Tarentum provincia evenerat*) went into action.[21] The situation was far from stable at that time in the *provincia* under discussion. That the Romans believed the situation to be dangerous is apparent from another Livy passage. Shortly afterwards, in 181 BC, the Senate expressly ordered the praetor L. Duronius, who was charged with Apulian matters (*praetor cui provincia Apulia evenerat*), 'to extirpate the evil in order to prevent it from spreading again.'[22] It seems evident from these three passages that there was considerable unrest in the area that fell under the jurisdiction of the *praetor* assigned to Taranto or Apulia in the decade between 190 and 180 BC. These persistent *mala* required the undivided attention of at least three Roman praetors or propraetors: L. Postumius in 185 and 184, L. Puppius in 183 and 182 and L. Duronius in 181.

It is not clear, however, whether these three sources actually relate to the Salento peninsula. Although the wording of the first two might suggest that the unpleasantness occurred somewhere in the Taranto area, the words '*in Apulia*' and the mention of L. Duronius' *provincia* suggests that the problems arose outside Salento, provided Livy was using these geographical terms in the customary - probably correct - way.[23] The harsh measures taken by Postumius and Duronius in the *quaestiones de Bacchanalibus* and the possible admixture of 'slave revolts' and 'conspiracies of herdsmen' demonstrate that something was seriously wrong in southeastern Italy in the 180s BC. Although slaves are unlikely to have been present in substantial numbers in the early 2nd century BC and slave revolts therefore probably did not occur at the time indicated by Livy, there was obviously considerable cause for discontent in the early 2nd century BC among large groups of the population of present-day Apulia.

3.4. People with Messapian roots in ancient written sources

People originating from the Italic *civitates* that were bound to Rome by a variety of *foedera* rarely feature in ancient written sources. Because they were not Romans, they usually played only a marginal role in Roman politics and history. When they became Roman citizens after the Social War, the integration of their native societies into the Roman world had progressed to such an extent

that we rarely recognize them as people of Calabrian, Lucanian or Sabellian origin.[24] Moreover, the substantial migrations within Italy through colonization make it highly unlikely that a particular *gens* that was prominent in, for instance, north-Apulian *Luceria* or south-Apulian *Brundisium*, actually had its roots in that region. Equally unlikely is the fact that people who actually had those origins continued to see themselves as Calabrians, Lucanians or Sabellians in the context of the Roman state, some 200 years after the Romans conquered their district. These observations are especially true of the members of the former native elites which, although some were probably not Roman citizens before the Social War, functioned in local, regional or supra-regional contexts which had to be compatible with the Roman world. The ancient literary sources generally give us only the names of people belonging to the local elites who - viewed from a purely Roman perspective - behaved particularly badly or conspicuously well in pitched battles, severe crises or other emergencies relating to the Roman state, as happened for instance during the Hannibalic war.[25]

The Messapians were no exception to this rule. People with obviously Salento backgrounds are few, and they feature in our written sources only in passages about the first hundred years after the Roman conquest of Salento. The earliest case is that of a certain Dasius from Brindisi. He features prominently in both Polybius and Livy as the man who delivered the small north-Italian stronghold of *Clastidium* (now Casteggio near Pavia), with its large stock of supplies, into the hands of Hannibal in 218 BC (Polybius 3.69; Livy 21.48). Both texts make clear that Dasius from Brindisi was the commander of the small fortress. He may have been in charge of a contingent of *socii* from the Brindisi region which was posted in the far north of the Po valley.

We may assume that a comparable function was held in Sardinia by the best-known Messapian in a Roman-Republican context - the 'Roman' poet Q. Ennius, whom Horace poetically described as *Calabrae Pierides*. He is probably the only Messapian whose face we can look at, since portrait herms of him were erected in Rome. Hafner (1968) suggested that a particular series of Republican portraits should be identified as the father of Roman literature (*fig. 4*). Quintus Ennius was born in the settlement of *Rudiae* in southern Salento in 239 BC and died in Rome in 169 BC. His parents must have been born shortly before or after the Roman victories over the Salento tribes in 267 and 266 BC, and his grandfathers may have fought with Pyrrhus against the Romans. The town of *Rudiae* was one of the approximately ten 4th-3rd-century walled settlements in the southern, possibly 'Sallentinian', part of the peninsula. On the strength of the present evidence, the settlement may have originated in the 8th century BC (cf. D'Andria 1991). Ennius was fluent in both Greek and Latin and spoke an obviously native-Italic tongue described as 'Oscan'.[26] Since he came from *Rudiae*, he must in any case have spoken Messapic. His excellent knowledge of both Greek and Latin suggests that he belonged to the elite of the *Rudiae* settlement. This view is explicitly expressed by the poet Silius Italicus, who believed that the mythical King Messapus was among Ennius' forebears.[27] Ennius shared this alleged Messapian 'royal' descent with the emperor Marcus Aurelius (see also note 30). The poet's literary work, especially what remains of his tragedies, demonstrates most convincingly that he was intimately acquainted with Greek literature. He may have been taught by a Greek *paedagogus* at *Rudiae* or have lived for some time in one of the Greek centres of culture like Taranto or Corfu near his native district. Since his sister is said to have been the mother of the famous 'Roman' playwright and painter Pacuvius of Brindisi (e.g. Pliny, *NH* 35.7.19), we may assume that the Ennii from *Rudiae* participated in a regional elite network. Thus the written evidence suggests that Ennius belonged to the uppermost social stratum of the regional society of Salento in the late 3rd and early 2nd centuries BC.

Fig. 4. Portrait of the 'Roman' poet Ennius born in the Salento settlement of Rudiae. *Vatican Museums (Photo Archive Archeological Institute, Amsterdam Free University).*

Much of Ennius' literary work has been lost. Only a few passages have survived because they were cited by more recent Roman authors. What remains provides little information for our present purpose. But since Ennius was regarded as the father of Latin literature and in that capacity was accorded considerable attention, we are relatively well informed about his life. He must have been about 20 years old at the outbreak of the Hannibalic war. We have no information about what he did during the war. Silius Italicus (*Punica* 12.393-395) suggests that he fought in the front line, but he is the only author to do so. In 204 BC, towards the end of the war, we find 35-year old Ennius in Sardinia, where he may have been part of the Roman occupation force that controlled this former Punic, and hence potentially dangerous, area. As a Salento nobleman, he may have commanded a Sallentinian contingent of *socii*.

His ascendancy as a literary figure began when M. Porcius Cato visited Sardinia on his return from Africa. For reasons unknown, Cato took Ennius to Rome (Nepos, *Cato* 1.4). Suetonius' description of Ennius' life in a modest house on the Aventine in Rome is too standardized to ring true; it is as cliché an image as the one both Cicero and Suetonius present of the poor poet (Suetonius, *De Grammaticis* 1; Cicero *Cato*, 14). It should also be observed that lavish, opulent dwellings did not yet exist in Rome in the early 2nd century BC. In fact, Ennius appears to have moved in high Roman circles and was acquainted among others with the Cornelii Scipiones and the Fulvii Nobiliores, who were highly influential in Rome in the early 2nd century BC. An amusing anecdote, told by Cicero and often believed to originate from Ennius' own *Satires*, gives an impression of his close friendship with Scipio Nasica (Cicero, *De Oratore* 2.276). Like the Greek Hellenistic poets who accompanied the Greek kings on their campaigns, Ennius followed his powerful Roman friend, M. Fulvius Nobilior, to Aetolia in 189 BC during the latter's consulate. On this occasion he composed a kind of epos extolling Nobilior's performance during the siege of Ambracia. At the start of this campaign, his patron came within a short distance of Ennius' Salento hometown, since Nobilior's forces set out for Greece from Brindisi (Polybius 22.24.16).

Thanks to the activities of M. Fulvius Nobilior's son Quintus, the Messapian Ennius was granted Roman citizenship in 184 BC. According to Cicero (*De Oratore* 3.42.162), the poet said: *Nos sumus Romani, qui fuimus ante Rudini*. From 184 BC onward Ennius belonged to the socio-political community that was Rome and was obviously proud to do so. We should bear in mind that he uttered these words in Latin in what was probably a Roman context. Another quote, found in Aulus Gellius (*tria corda sese habere dicebat*: 'he said that he had three hearts'), suggests that Ennius identified himself with other ethnic labels as well (see note 26). Obviously, he lived in Rome as Romans do. He possessed the *paideia* that was part and parcel of being a well-educated Greek and was able to function in Taranto, Corcyra or Dyrrhacchium as Greeks were expected to do. And when he returned to his ancestral home in *Rudiae*, he may once again have become the native chieftain who discussed matters of local importance with the tribal farmers of his clan and other *Rudini*.

Ennius, the Sallentine nobleman, obviously succeeded in a Roman context. He was the most venerated poet of Republican times, who mixed with the greatest Roman politicians of his day, visited Greece and eventually became a Roman citizen. He was, however, by no means the only Messapian who was successful in post-conquest Salento. Men with native Salento backgrounds also played a role in contacts with Greeks in the southern Balkans. They are present in sources from the first half of the 2nd century BC and were therefore Quintus Ennius' contemporaries. The most conspicuous man in the Roman sources is a certain L. Rammius of Brindisi who, according to Livy (42.17.2), played an important role at the start of the second Macedonian War. In 172/171 BC he was allegedly asked by King Perseus of Macedonia to poison Roman commanders and ambassadors staying at his Brindisi house. He naturally revealed this wicked Greek plot to his Roman friends and told the Senate in Rome about Perseus' intentions. Appian (*Rhomaika* 9.7) tells the same story but calls the prominent man from Brindisi 'Erennius'. The context of Livy's and Appian's stories shows that Lucius Rammius or Lucius Erennius definitely belonged to the elite of his hometown: Livy calls him *princeps Brundisii*. He was not just an important man in local terms; he must also have had connections in both Greece and Rome, receiving Greek princes and highly-placed Romans in his Brindisi house.[28] The passages in Appian and Livy suggest that he knew personally both King Perseus of Macedonia and King Eumenes of Pergamum. Unfortunately, Livy does not inform us about his origins. Since he lived in Brindisi, he could have stemmed from both the originally native-Calabrian group as well as the Latin/Roman settlers who arrived in 244 BC, when the *colonia latina* of *Brundisium* was founded.

That Lucius Rammius (or Erennius) may have had Messapian roots is indicated by a man with a very similar, perhaps even identical, *gentilicium*. An inscription in the Dodona sanctuary mentions a Gaius Rennius of Brindisi who was definitely of Messapian ancestry. He appears to have been granted a proxeny by this important Epirote sanctuary at some time in the first, second or third decade of the 2nd century BC. His Salento roots are quite evident, since his father's name - Dazoupos, a very characteristic 'Messapic' name - was added to the inscription.[29]

There were more Salento men of this type, however. Gaius Pulfennius of Brindisi, son of Dazos, also had obvious Messapian origins: he was granted a proxeny by the *koinon* of the Epirotes, probably during the 170s BC (Cabanes 1976). Gaius Statorius of Brindisi, *proxenos* of the sanctuary of Delphi, and Dazos, son of Daziskos from the Sallentinian town of Uxentum (now Ugento), who appears in the inventories of the sanctuary of Apollo at Delos, are also among those with Salento roots who feature in the Greek and Roman contexts of the early 2nd century BC. The latter two Messapians appear in inscriptions dating to the first one or two decades of the 2nd century BC (cf. Zalesskij 1982; Silvestrini 1998).

These Messapians who feature in the written sources were not simple farmers. The poet Ennius is explicitly said to have been of noble or even royal descent. That such high-ranking Messapians were not created in later mythologizations but actually existed in pre-Roman and early Roman Salento is confirmed by Strabo (*Geography* 6.3.6), who mentions the presence of a *basileion* in the Messapian settlement of Oria on the Salento isthmus. Since Ennius' sister married someone from Brindisi, her son, the 'Roman' tragedian and painter Pacuvius, must have belonged to the same social group in the Salento district. But in the 2nd century BC, the Salento elite probably did not consist solely of people originating from the former Messapian ruling class; it may also have included leading families of Brindisi of originally Latial or central-Italic descent.

The texts that mention Lucius Rammius or Erennius, Gaius Rennius, Gaius Pulfennius, Gaius Statorius (all from Brindisi) and Dazos from Ugento suggest that they were important people. Dazos - admittedly on flimsy grounds - is believed to have been an oil merchant at Delos (Zalesskij 1982). Since three of the others appear in proxeny inscriptions, they must have been very wealthy men who occupied prominent positions in their hometown and had a substantial international network. Their fathers also have 'Daz'-names (Dazos, Dazoupos, Daziskos), which some believe to be a title or a name characteristic of the native ruling class of pre-Roman Apulia and Calabria (Mazzei/Lippolis 1984, 226).[30] Since they are likely to stem from the traditional, land-owning local elite of the Salento peninsula, they may well have been large landowners (cf. Yntema 1993a, 207-208). Moreover, the close connections that Rammius, Rennius, Pulfennius, Statorius and Dazos, son of Daziskos, had with the Greek world indicate that they may also have been involved in trade with Greece and other parts of the eastern Mediterranean. Since they had high status in both their native district and the Graeco-Roman world, they may have numbered among the great traders (probably called *negotiatores*) who supplied the people living or operating in Greece, including the Roman armies. Products from the Salento large holdings owned by these men and other members of their class (e.g. corn, olive oil and wine) must have been among the standard products of their Salento farmsteads.[31]

Thanks to his literary talents and the patronage of the Fulvii Nobiliores and the Cornelii Scipiones, Ennius' career may have been quite exceptional in a Roman context. However, it is revealing that other more or less contemporaries with obvious Messapian roots appear in the ancient written sources on the early 2nd century BC. Some are such close contemporaries that they must have been acquainted. Lucius Rammius (or Erennius), who informed the Roman Senate about King Perseus of Macedonia's treacherous conduct, must have known Gaius Pulfennius. Both had their home base in Brindisi, Rammius features in Livy in a passage concerning the year 172, while Pulfennius was granted a proxeny by the Epirotes during the 170s. The same holds for Gaius Statorius, Gaius Rennius and Dazos from Ugento, who seem to have been men of considerable importance during the 190s or 180s. In the century following the Roman conquest, there clearly appear to have been a fair number of such men in the scant written sources concerning that period. They all belong to the two generations who were born within about 30 to 50 years after the Roman conquest. And they are probably just the tip of the iceberg: they were among the limited number of people of wealth and high rank who featured prominently in 'international' contexts. There must have been successful and prosperous Messapians in the later 3rd and early 2nd centuries BC who do not appear in our sources simply because their inscriptions were lost or because they were large

Salento landowners who did not attain the eminent 'international' status of their 'compatriots' discussed above.

Those appearing in the written sources were all members of the Messapian elite. Official inscriptions and Roman historians rarely mention commoners. It is striking, however, that we would never have recognized them as being of Messapian descent if their fathers' typically Messapian names had not been added to the 'Roman/Latin' name they chose in the early 2nd-century context of the Roman state. This 'Roman/Latin' name was not only used in exclusively Roman contexts, but even features in official inscriptions in the Greek world. Another salient characteristic of these Messapians is that they did not call themselves 'Messapians', 'Calabrians' or 'Sallentinians'. Rennius, Pulfennius and Statorius identified themselves as *Brentesinoi*, Ennius called himself a *Rudinus* and Dazos professed to being an *Azentinos*. It appears that they identified themselves with the town that they came from, and not with the tribal group to which they might have belonged in the context of the originally Messapian societies.

It is of course hardly surprising that the men from Brindisi called themselves *Brundisini* or *Brentesinoi*. The town of Brindisi was rapidly becoming one of the major ports of Roman Italy - second only to *Puteoli* - and must have been widely renowned, especially in the eastern Mediterranean (Marasco 1988). It is therefore plausible to assume that Greeks were better acquainted with the town's name than with terms like *Messapos*, *Kalabros*, or *Sallentinos*. However, Q. Ennius and Dazos, son of Daziskos, presented themselves as men from *Rudiae* and *Uxentum* respectively. These two Messapian towns must have been rather obscure places in the Graeco-Roman contexts of the 2nd century BC. This can be explained in two ways. Either the tribal allegiance and structure of the Messapian groups in Salento had already been strongly eroded by the early 2nd century BC, or the regional elite of Messapian descent no longer wished to associate itself with the old Messapian political régime. Both explanations imply, however, that the tribal organization of the Messapian groups no longer played a significant role for people of Salento descent who operated in the continuously expanding Hellenistic-Roman world. They suggest that these men wished to be associated with new socio-political realities. Although it is uncertain whether they all had Roman citizenship (most may have had Latin citizen rights), these men - although basically *Italioi* - presented themselves in Greek contexts in the same way as the noble *Rhomaioi* did.[32] Here they often used names - like Gaios Statorios Brentesinos - that display suspiciously close similarities to the *tria nomina* system of the Roman elite. In Greek contexts, the poet Ennius may have presented himself as Quintus Ennius Rudinus.

These data provide us with important clues concerning the way the great men of Salento wished to be viewed in the international context of the early 2nd century BC. The text closest to the private sphere of the early 2nd century BC furnishes us with what may well have been traditional Messapian practice: the votive offering to Apollo at Delos is presented by Dazos, son of Daziskos. No Latin-style *gentilicium* or *prenomen* is given. Identical onomastic formulae, in which the name of the father is added to the name of the dedicator, are known from many Messapian inscriptions in sanctuaries and from tombstones, and have close parallels in the Greek world (e.g. De Simone 1964; Pagliara 1987). Thus the use of Latin-sounding *gens* names such as Ennius, Rammius/Erennius and Rennius and typical Roman *prenomina* such as Gaius, Lucius and Quintus found in the surviving written sources may be viewed as a significant break with the tribal Calabrian or Sallentinian past. It is perhaps too much of a coincidence that Ennius assumed the Roman *prenomen* Quintus and owed his Roman citizenship to Quintus Fulvius Nobilior, son of Ennius' *patronus* Marcus.

While the origins of the *praenomina* are perfectly clear, we may ask where the *gentilicium* of these originally Messapian gentlemen came from. With regard to Ennius, Erennius/Rammius, Rennius, and Pulfennius, these names - all ending with -ennius - sound like a regional conspiracy and are not really transparent. Marcus Aurelius' mythical forefather Malennius, allegedly founder of the Messapian settlement of *Lupiae* (now Lecce), obviously belonged to the same tribe. Gaius Statorius of Brindisi, however, may have based the name of his *gens* on the Messapian name *Thaotoridas*, which derives from the regional god Thaotor. Much later, in the 2nd century AD, a *gens Tutoria* whose name derived from Tutor, the heavily Latinized form of the same god Thaotor, probably lived in *Lupiae* and owned a number of very substantial Roman villas in the area between Brindisi and Lecce (Marangio 1975; Pagliara 1980). The name of the originally Messapian Tutorii is also said to live on in that of the village of Tuturano, some 10 km south of Brindisi, which is believed to derive from a *fundus Tutorianus* (Laporta 1988).

No-one of recognizably Messapian descent appears in written sources for more recent periods.

One reason may simply be that we are unable to recognize them: the Italian elites of late Republican times operated at a supra-regional level and the local population was gradually becoming a mix of Latin colonists, immigrant Greeks and Italians, people of local origin and imported slaves. Another reason may be that the former Greek towns and their originally indigenous neighbours in the coastal areas of southern Italy were not involved - and fundamentally not interested - in the Social War and its outcome. The inhabitants of Heraclea in Lucania - since they were already *citizens* of Heraclea - even discussed whether they would accept the grant of Roman citizenship in 89 BC (cf. Ciaceri 1924, 32). As a result, the southern elites were poorly represented among the *homines novi* who entered the Senate in the later 2nd and 1st centuries BC (Torelli 1971). As for Salento, only two men of senatorial rank (probably brothers) are recorded who may have stemmed from Brindisi. However, the grounds for assigning them to this town are rather flimsy (see Wiseman 1971, 230).[33]

The southern elites of the late 2nd and 1st centuries BC seem to have been only marginally interested in Roman politics. Although they technically became Romans in 89 BC and could exercise the political aspects of their citizenship rights in the 500-700 km distant centre of power, these Greeks, Messapians and other natives from southern Italy's coastal strip were inclined to mind their own business. They also continued to view the Greek world of the eastern Mediterranean as their main point of reference. It should also be stressed that the southerners certainly did not consider themselves barbarians: they were cultured men who spoke both Latin and Greek. Thus they might not have had the same keen interest in truly becoming 'new men' that some of the leaders of Emma Dench's central-Italic mountain people had (cf. Dench 1995).

The above passages show that, generally speaking, the Messapian elite prospered in the century following the Roman conquest of their districts. All - or nearly all - of the Salento people we encounter in the ancient written sources emerge as men with solid 'Messapian' backgrounds. They were also men of very high status who befriended leading Roman senators and/or Greek kings (Rammius/Erennius, Ennius) and who were held in high esteem by famous Greek sanctuaries or Greek states (Statorius, Pulfennius, Rennius). Like Ennius, they may all have spoken both Greek and Latin in addition to their native Messapic language. Since they stemmed from the indigenous elites, men like Rammius, Pulfennius and Statorius were probably both large landowners and very important *negotiatores*. They may also have been diplomats who mediated between Rome and the Greek states, since they were able to function well in two different cultural systems - both Greek and Roman society.

Such eminent men from Salento may also have existed in the later 2nd century BC. Ennius' nephew from Brindisi, the poet and painter Pacuvius, is the only person with partial or complete Messapian ancestry who by pure chance appears in the sources discussed in this section. However, other outstanding Salento men cannot be traced in the written record since their full integration into the Graeco-Roman world renders them unrecognizable. Ennius, Rammius and Pacuvius feature in the Roman literary sources. The unique fact that a handful of Greek inscriptions from the first half of the 2nd century BC add the place of origin and father's characteristically native name to the Latinized names of some important '*Italioi*' enables us to identify a few highly prominent Messapians whose *floruit* was between 200 and 160 BC (i.e. in the period directly after the Hannibalic War).

4. ARCHAEOLOGICAL SOURCES

In the introduction to section 3 above, I have sketched the picture of post-Roman-conquest southern Italy that was presented until the 1990s on the basis of interpretations of historical sources. The cliché of post-conquest and post-Hannibalic decline and impoverishment did not of course encourage archaeologists to invest in research projects targeting this particular period of southern Italy's history. The general picture, it was believed, was perfectly clear. It was also a highly plausible construct of southern Italy in Roman times. At first glance it seemed highly likely that the widespread destruction resulting from the Roman conquest and the enormous ravages supposedly caused by Hannibal's troops in turn produced the rather depressing landscape described above. This general impression was reinforced by the epigraphical evidence of Roman times. The many funerary inscriptions that had fortuitously come to light in considerable numbers in both urban and rural contexts in southern Italy revealed for instance that the population of Salento consisted mainly of freedmen and slaves, many of whom had Greek names (e.g. Susini 1962, 60). This suggested that the composition of the population of Salento had completely changed. It should be stressed, however, that the vast majority of these

inscriptions appear to date to the 2nd and 3rd centuries AD and that inscriptions dating between the 2nd century BC and the 1st century AD are very rare in the area under discussion. If these epigraphical data can indeed be interpreted in this way, a decisive shift in the composition of the population could in principle have occurred at any time between the Roman conquest of 267/266 BC and the mid-2nd century AD. However, the close reading of the written sources presented in the preceding section reveals that the commonly accepted picture of early Roman southern Italy is probably a mixture of Roman clichés for conquered territories (cf. Alcock 1993) and southern realities and clichés of more recent date (e.g. the Roman Imperial Age and the modern *Mezzogiorno*). A first sign that the Roman period of southern Italy was attracting the attention of archaeologists was the Belgian excavations at north-Apulian Ordona (ancient *Herdoniae*) in the 1960s and 1970s (e.g. Mertens 1979 and 1988). Here important urban features such as two temples, a *macellum* and a *basilica* of an amusingly provincial town of the Roman period came to light (*fig. 5*). A second encouragement came from the *Magna Grecia in età romana* congress held in Taranto in 1975.[34] A first synthesis on the Roman period in Apulia was published by Francesco D'Andria in 1979. In that same year the Institute of Archaeology of the Amsterdam Free University decided to carry out a series of field surveys in Salento in order to study changes in rural settlement patterns. One of the aims was to test the almost generally accepted view of Roman southern Italy as a particularly depressing, ancient Mediterranean version of the American Midwest. The fieldwork started in 1981 in the area surrounding the important pre-Roman tribal centre but relatively unimportant Roman *municipium* of Oria (*Uria Calabra*, *ORRA* on its 2nd-century BC coins), situated on the Salento isthmus (for the final report, see Yntema 1993a).

Since the early 1980s considerably more attention has been paid to the Roman period in Apulia.[35] Excavations and other types of research concerning the Roman period have been carried out at Taranto, Lecce, Canosa, Venosa, Valesio, Vaste and the area in and around Brindisi. The most impressive studies concern a large Roman temple at Canosa (Cassano 1992; Dally 2000) and the magnificent late Roman complex of San Giusto near north-Apulian Lucera (Volpe 1998). But all in all the picture of the Roman period in Apulia is rather bleak. This can largely be ascribed to the fact that the most important Apulian centres in the Roman period have all continued as settlements to the present day. This observation is true of *Tarentum* (Taranto), *Brundisium* (Brindisi), *Lupiae* (Lecce) and *Canusium* (Canosa). The remains of these Roman towns have been buried, destroyed and reused in more recent phases of the rich histories of these towns. However splendid their Roman attire might have been, they are almost invisible in the archaeological record. In the following sections I will briefly discuss the archaeological data for the first two centuries after the Roman conquest of Salento so that they can be compared with evidence from the written sources presented in section three. For the preceding presentations of data on Roman Salento, I refer to earlier publications on this subject (D'Andria 1979; Yntema 1995).

4.1. Rural settlement and economy

Information on rural settlement in Salento comes mainly from field surveys carried out in the northern part of Salento by teams from Siena University and the Amsterdam Free University (*fig. 6*). While the Siena team worked in the immediate vicinity of Brindisi and revealed mainly traces of Roman landscapes (e.g. 2001), teams from Amsterdam inventoried traces of past human occupation in large 'rural' areas on the Brindisi plain at Oria (66 km^2) and Valesio (20 km^2) dating between the Neolithic period and late medieval times (e.g. Boersma et al. 1991; Yntema 1993a; Burgers 1998). The Amsterdam Free University is at present working in the more hilly Ostuni area to the north of Brindisi and in the hills northwest of Taranto.[36]

It was one of the basic aims of both the Oria Field Survey (1981-1983) and the Valesio Field Survey (1989-1991) to trace developments in the rural economy. The present-day town of Oria is situated halfway between Taranto and Brindisi on the Salento isthmus. The various concentrations of artefacts were mapped in an area of ca 66 km^2 around the ancient settlement of Oria. Though certainly not every site was detected in this procedure, there is reason to assume that the field-survey results do in fact provide a good impression of general trends in rural habitation in the Hellenistic and Roman periods (final report: Yntema 1993a). They demonstrate that a fairly intensive rural habitation began in the native districts of Salento between 330 and 280 BC. There must have been dozens of small farmsteads, each with one or two adjoining necropoleis, throughout the Oria countryside during the 3rd century BC. Some 30 of these were discovered during the field survey (Yntema 1993a, 181-186). Judging by the reports on

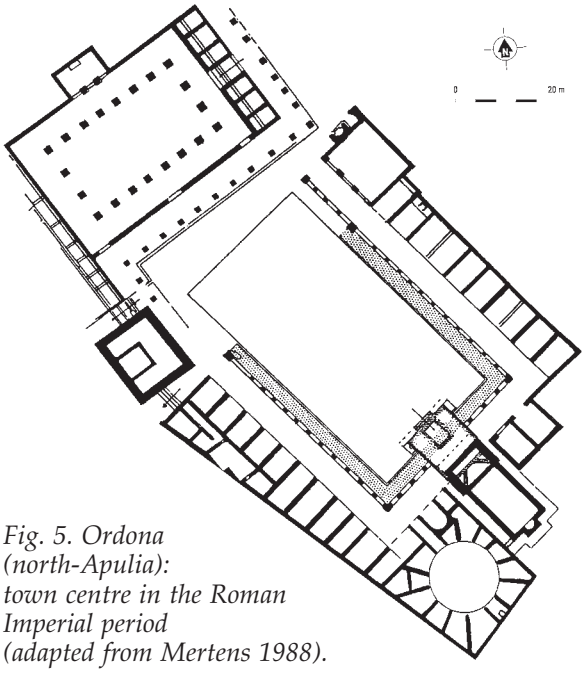


Fig. 5. Ordona (north-Apulia): town centre in the Roman Imperial period (adapted from Mertens 1988).

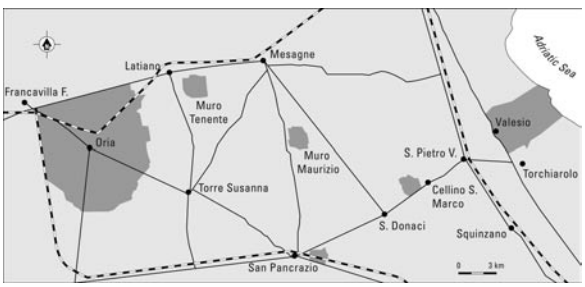


Fig. 6. Salento isthmus: field survey areas (Amsterdam Free University, 1981-1995).

the burials, each of these farms is likely to have been inhabited by a family unit consisting of approximately 10 to 15 people. The more sophisticated methods used during the field survey in the rural area between Valesio and the Adriatic Sea in the early 1990s produced an even larger density of rural settlements for the 3rd and early 2nd centuries BC: here 49 farm sites were discovered in an area of about 20 km² (*fig. 7*).

However, by about the mid-2nd century BC (i.e. in the period after the Hannibalic war), 12 of the 30 Oria farmsteads had been abandoned (Yntema 1993a, 198-202). Intensive auguring (the standard procedure during the Oria survey) has demonstrated that the remaining 18 farms more than doubled in size. Although no burial plots have been found to provide information on the size and composition of the population of these much larger farms, we may perhaps assume that the farms were inhabited by a group of people of approximately the same size as the *casa colonica* described by Cato - i.e. some 25 to 30 people.[37] A very similar development can be observed in the Valesio countryside, where the number of farm sites dropped from 49 around the mid-3rd century BC to 27 in the later 2nd century BC (Burgers 2001).

Thus both the Oria and Valesio field surveys demonstrate that while the number of rural sites declined during the first half of the 2nd century BC, the sites which continued to be inhabited in the later 2nd century BC (in both cases well over 50% of the sites discovered in the research area) were much larger than the 3rd-century farmsteads. The new farms that were constructed on top of (or using parts of) the 3rd-century tribal farmsteads were two to four times larger than their predecessors (Boersma et al. 1991; Yntema 1993a). On the strength of this evidence, it is plausible that the rural population in northern Salento (i.e. the part of the peninsula closest to the Taranto scenes of war in 213-209 BC) actually increased in the aftermath of the Hannibalic war. Agriculture therefore seems to have intensified considerably in Salento in the post-Hannibalic era. The new and much larger farms of the mid- to later 2nd century BC may be regarded as a sign of considerable rationalization and intensification of agricultural production (cf. Yntema 1993a, 195-213).

The large farmsteads are by no means the only evidence for an intensification of agriculture in Salento. Transport amphorae - of the so-called Graeco-Italic type (*fig. 8a*) - were probably made in Salento from about the mid-3rd century BC.[38] They continued to be made until about the middle to the third quarter of the 2nd century BC. Their appearance may be tentatively linked with the surplus production of the relatively small farmsteads of contemporary date. Before the mid-2nd century BC, however, a new and larger-scale production of amphorae began. These so-called 'Apulian' or 'Brindisi' amphorae (*fig. 8b*) were produced in the large kilns of the sites of Apani, Giancola, Marmorelle and La Rosa, each of them only a few kilometres from Brindisi (e.g. Manacorda 1988 and 1990 and Palazzo 1988 and 1989; Désy 1989). There are indications that similar workshops, although probably of more modest dimensions, existed in southern Salento.[39] These workshops were strictly organized, each with at least two or three slaves. The workshop organization can be deduced from the stamps on the amphorae (cf. Désy 1989; Palazzo/Silvestrini 2001).

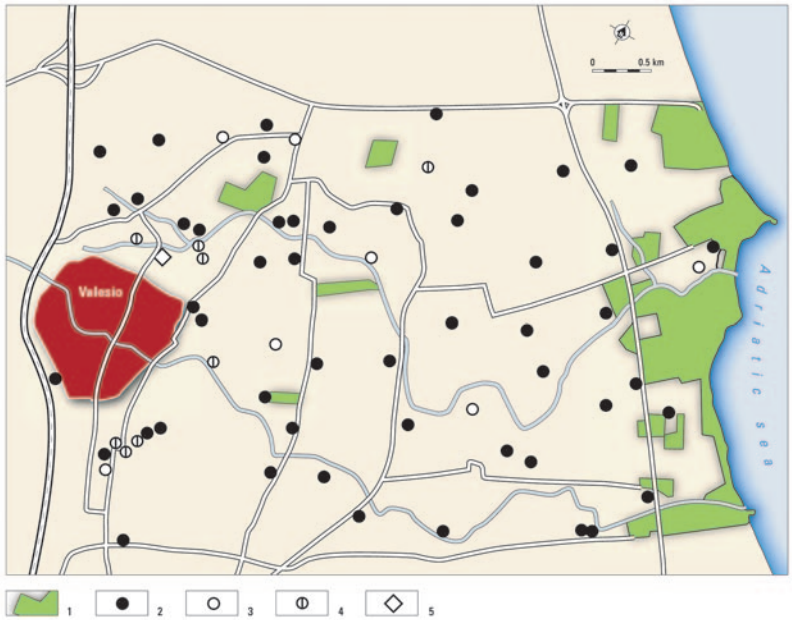


Fig. 7. Valesio (Brindisi), farmsteads of the late 4th and 3rd centuries BC discovered during field surveys (Amsterdam Free University, 1989-1992):
1 not investigated
2 farmstead
3 probable farmstead
4 concentration of tiles, amphorae and storage jars
5 pre-Roman sanctuary

It goes without saying that the introduction of large amphora production units near the key port of Brindisi was closely related to agricultural production in the hinterland: the amphorae probably contained products from the north-Salento Brindisi plain. Since the start of large-scale production of Apulian trade amphorae (ca 170/160 BC) was contemporaneous with the creation of much larger farmsteads (between about 170 and 150 BC), we may suspect a close relationship: these 'Catonian' *casae* in Salento probably produced the contents of the Apulian amphorae. The distribution of this type of amphora over the Mediterranean indicates that the agrarian products of the Brindisi area were widely consumed in considerable quantities (Cipriano/Carre 1989). Products from Salento were marketed in large parts of the Mediterranean with remarkable success. The district must therefore have generated very substantial surpluses indeed.

I have stressed above the probable close link between the appearance of larger farmsteads in rural Salento and the rise of large-scale amphora production centres at Apani, Giancola, Marmorelle and La Rosa (all near Brindisi), San Cataldo-Ramanno (the Lecce area) and Felline (near Ugento). This assumption is strengthened by yet another factor. The urban surveys in the Brindisi area mentioned above indicate that those settlements situated on the well-known, major Roman arteries of Salento (the *via Appia* and *via Calabra/Minucia*) declined less rapidly than those on roads that were peripheral to the Roman road system

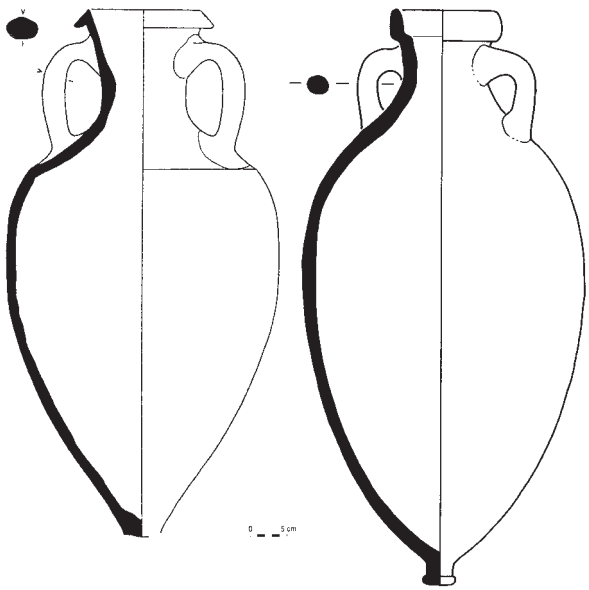


Fig. 8. Amphorae produced in the Salento district:
a. Graeco-Italic amphora from Valesio, late 3rd/early 2nd century BC;
b. Brindisi amphora from elite burial at Ascoli Satriano (north-Apulia), mid 2nd century BC.

(Burgers 1998). This could suggest that the former Messapian settlements on these Roman highways initially retained at least one of their earlier functions: they may have been collecting stations for agrarian products from the farms and fields surrounding the drastically reduced settlement itself

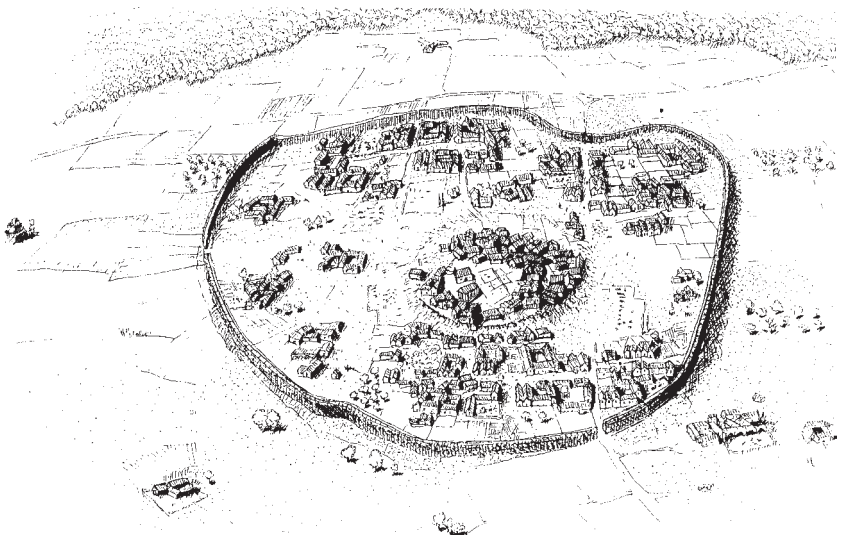


Fig. 9. Artist's impression of the settlement of Muro Tenente (Brindisi district) in the 3rd century BC (based on excavations, urban survey and auguring).

and from the farms and fields once belonging to settlements now virtually abandoned because they were not on a major Roman-era artery. If this is correct, the *via Appia* and the *via Minucia/Calabra* were not just Roman highways for interregional traffic. They played an equally important role in the regional economy, as the main arteries along which the very substantial surplus production of the Brindisi district was transported to the regional centre of Brindisi for consumption, packing or shipping.

4.2. Urban settlement and religion

The profound changes in the rural sector discussed in the preceding section went hand in hand with substantial changes in the settlement hierarchy. Burgers (1998) has highlighted these 'urban' developments for the northern part of Salento, but we can surmise similar changes in the southern part. Information on this subject can be derived from a series of 'urban' surveys carried out at the north-Salento sites of Muro Tenente (52 ha), Muro Maurizio (32 ha), San Pancrazio (16-17 ha), Valesio (80 ha), none of which was built over in post-antique times (cf. Yntema 1993b; Burgers 1998). We can discern four different types of settlements in the Calabro-Sallentine area before the Roman conquest. As we have seen above, the smallest settlement type was the isolated farmstead. There must have been hundreds of them in Salento, sometimes clustered in hamlets of three to five habitation units.[40] In addition to these two types of rural settlements, however, there was an ample series of walled, more or less urban settlements, each presumably with some 2,000 to 4,000 inhabitants. In about 300 BC, shortly before the Roman intervention in Salento, there were some 25 of these (D'Andria 1991; Burgers 1998). Since they had large and impressive town walls,[41] each may have enjoyed a limited measure of political independence within the regional tribal systems and must have furnished its inhabitants with a decidedly local identity. However, the largest (e.g. Oria and Ugento) may have ranked above most of the other walled settlements. They were possibly tribal centres of regional importance - not just the largest walled settlements of ca 300 BC, but already substantial fortified settlements in a relatively distant past. While most of the Messapian walled settlements were initially only very small strongholds or were not walled until the late 4th century BC, these larger centres in Salento were walled as early as the late 6th or early 5th century BC.[42] At the time of the Roman conquest, the settlement hierarchy in the Calabro-Sallentine districts probably consisted of a few major tribal centres, a series of about 25 somewhat minor walled towns that harboured subtribal units, and small rural settlements (hamlets and isolated farmsteads) that were situated within the territories of the walled towns.

In section 4.1 I have explained what happened to the rural settlements of Salento after the Roman conquest. But the walled centres were also subject to substantial change. Initially very little happened. The distribution of ceramics dating to the second and third quarters of the 3rd century over the walled sites does not differ from that of the late 4th/early 3rd century BC. A peripheral quarter of the Muro Tenente site, built in the early decades of the 3rd century BC, was not abandoned before 230/220 BC (*fig. 9*). But before the mid-2nd century

BC (i.e. within a hundred years of the Roman conquest), many of the walled towns had become mere villages with a few hundred inhabitants, and most of these in turn became hamlets of a few dozen people in the 1st century BC (Yntema 1993a; Burgers 1998). According to the results of the four urban surveys in the Brindisi area, the population loss sustained by the walled settlements started in the last quarter of the 3rd century BC and became truly dramatic during the first half of the 2nd century BC.[43]

Not all the walled settlements of Salento were affected in the same way. As I have said above, those settlements situated on the major Roman highways (the *via Appia* and *via Minucia/Calabra*) declined less rapidly than those that were not (Burgers 1998). Moreover, the former tribal centre of Oria on the Salento isthmus managed to retain some of its former grandeur. For instance, the town minted its own coins in the 2nd century BC (*fig. 10*) and survived as an - admittedly modest - *municipium* with its own *ager Uritanus* into the Roman Imperial period. The ports of Gnathia and Otranto, both on the *via Minucia/Calabra*, retained more or less their former status and survived as towns of secondary importance.

However, two Salento towns - Brindisi (*Brundisium*) and Lecce (*Lupiae*) - probably experienced completely different demographic changes. Although certainly walled towns in the pre-Roman period, there are no indications that they were major tribal centres. Since both Brindisi and Lecce have survived until the present day, the archaeological evidence is necessarily patchy. The ancient written sources discussed in section 3.1 make it quite clear that Brindisi was by far the most important town during the 2nd and 1st century BC in the area that must have been Calabrian and Sallentinian territory in the early 3rd century BC. The town's prosperity in early Roman times is reflected in elaborately decorated capitals belonging to a substantial, 2nd-century BC temple. These have close parallels in the former native settlement of Canosa (*Canusium*), which was emerging as by far the most important Roman town of northern Apulia in that same period (*fig. 11*).[44]

No such evidence exists for Lecce (*Lupiae*) in the southern part of Salento. The rise of *Lupiae* as a major regional centre was commonly believed to have occurred in the 2nd century AD under emperor Marcus Aurelius. Since he believed that King Malennius, the mythical Messapian founder of Lecce, was one of his ancestors,[45] it is understood that he upgraded the settlement founded by his forebears. Recent investigations, however, suggest

Fig. 10. Coins minted at Oria in the 2nd century BC.

Fig. 11. Canosa (north Apulia). Capital of the Italic temple underneath the church of San Leucio, the 2nd century BC (photo Archive Archeological Institute, Amsterdam Free University).

that Lecce was already a flourishing town in Augustan times. The lavishly decorated theatre with an obviously Augustan programme of sculptures (*fig. 12*) must have been the pride of the town (D'Andria 1999).[46] This means that Lecce is likely to have been a town of considerable substance in the pre-Augustan period, perhaps second only to Brindisi in Salento's settlement hierarchy from the later 2nd to 1st century BC onward.[47]

Many pre-Roman sanctuaries of the Salento district were situated outside the physical boundaries of the walled settlements. Located in caves and near springs, they were probably controlled by local elites. Judging by the finds, they particularly thrived during the late 4th and early to mid-3rd century BC. The later 3rd century shows a substantial drop in the number of finds, which de-

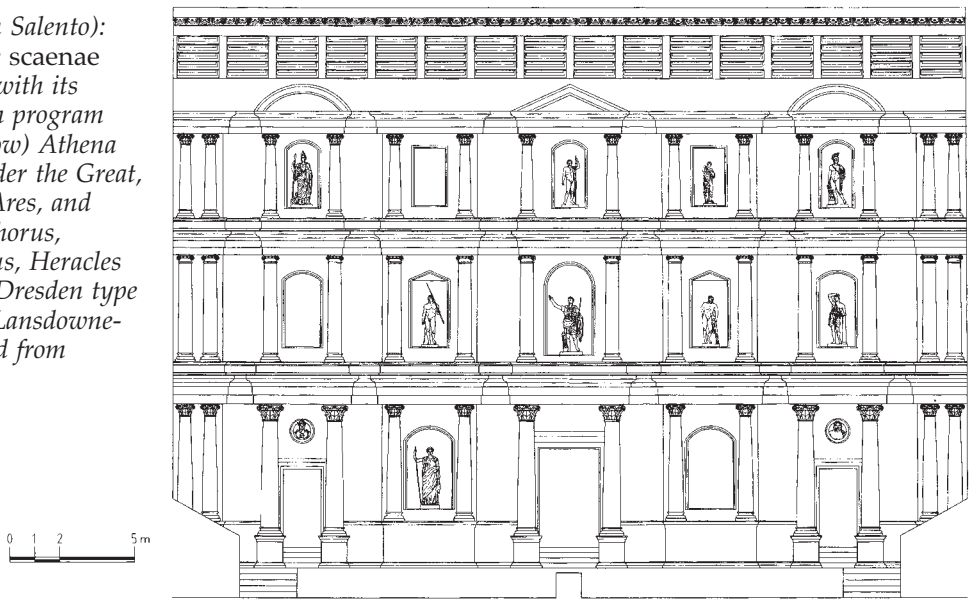


Fig. 12. Lecce (south Salento): reconstruction of the scaenae frons *of the theatre with its Augustan decoration program containing (upper row) Athena Giustiniani, Alexander the Great, Gabii Artemis and Ares, and (middle row) Doryphorus, Primaporta Augustus, Heracles of the Copenhagen-Dresden type and Amazon of the Lansdowne-Sciarra type (adapted from D'Andria 1999).*

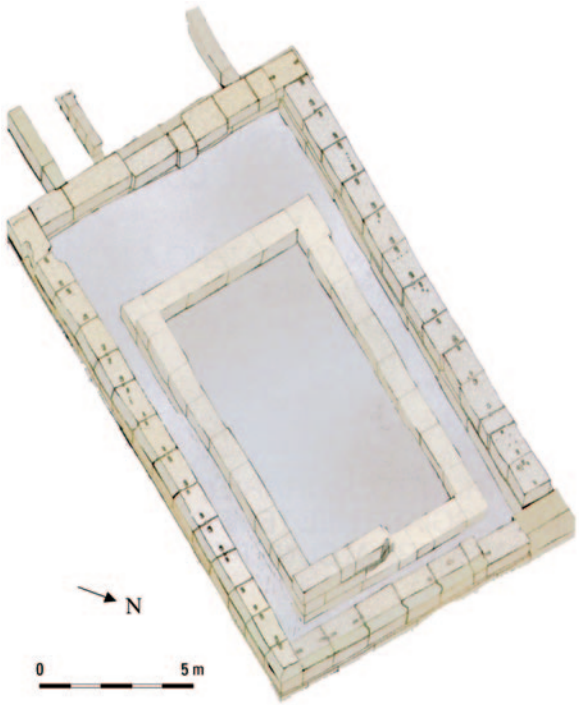


Fig. 13. Gnathia (north Salento): remains of the 'Acropolis' temple, 2nd century BC (adapted from Il Parco Archeologico di Egnazia, *Valenzano, 2000).*

clined even further during the first half of the 2nd century. Only very few of these sanctuaries survived into the Roman Imperial period.[48] Most were abandoned during the first half to mid-2nd century BC (Yntema 1995a). However, traces of Roman sanctuaries are almost invariably found in the centre of the settlements. The figured capitals of Brindisi have been discussed above. There is no information on Roman temples in the still existing towns of Lecce and Otranto. At Oria, inscriptions referring to sacred areas or sacred buildings of the Roman period were all found in the very centre of the present-day town (Pagliara 1980). Moreover, the modest town of Gnathia, whose Roman part has been almost completely excavated, had two substantial buildings that functioned as temples in early Roman times. These were all situated inside the fortifications and can be characterized as urban cult places. The largest and probably most representative of these sacred buildings probably dates to the 2nd century BC (*fig. 13*). It was situated on the so-called acropolis, a flat-topped hill within the fortified area towering high above the houses and streets of the Roman town.

Changes in the religious domain were rather dramatic. While the Messapian towns had extra-urban sanctuaries with no - or just small - buildings, the towns of Roman Salento had decidedly urban sanctuaries containing substantial sacred buildings. These occupied conspicuous, often prominent positions within the town. Some must have been embellished in a manner that befitted the town's status. While fortifications and elite dwellings were among the status symbols of the Messapian towns, much time and energy was devoted to constructing representative sacred buildings and possibly other types of architectural monuments in the hearts of the few Salento towns of early Roman times.

4.3. Social relations

Burials and burial plots are sometimes eminently suited to the study of evolving social relations. It might therefore be rewarding to analyze the burial plots of Salento in order to gain insight into this matter. While there is a consistent body of funerary evidence from the former Greek town of Taranto in Salento for both the 3rd and the 2nd century BC (cf. Lippolis 1994; Gräpler 1997), the data regarding the remaining, previously indigenous, areas of Salento are problematical. If we take at face value the evidence published thus far, there appear to be almost no tombs dating to the period following the Roman conquest. This is due to a series of misconceptions that have led to an incorrect dating of some classes of Tarantine/Apulian ceramics.[49] If this bias is removed, it emerges that there were numerous tombs in native Salento in the first and second quarters of the 3rd century, that a much smaller number of tombs can be dated to the third and especially the final quarter of that century, and that the archaeological record is very meagre indeed for graves from the earlier 2nd century BC.[50]

Of course, in very general terms this funerary evidence reflects the settlement history of the vast majority of Messapian towns. We have seen that these flourished during the first half of the 3rd century, lost some of their inhabitants in the later 3rd century, and were almost completely abandoned during the first half of the 2nd century BC. The depopulation of Messapian towns, which started in the last third of the 3rd century BC and reached dramatic proportions between 180 and 150 BC, is at least partially responsible for this pattern. It should, however, be observed that in general less care was bestowed on burials dating to the later 3rd century BC: there are fewer pots in the graves, the pots are of fairly modest quality, and tile-covered graves increased at the expense of the traditional 'Messapian' tombs consisting of impressive stone slabs. Thus the likelihood of these much 'poorer' burials of the later 3rd century BC turning up in the archaeological record is considerably less than for the conspicuous cist burials of the earlier 3rd century BC. But whatever biases Salento's archaeological record may contain with regard to the funerary domain of local societies, it cannot be denied that there are indeed burials dating to the late 3rd and first half of the 2nd century BC. It is therefore useful to discuss the provenance and character of some of them in order to trace some aspects of the Salento social relationships in the Hannibalic and post-Hannibalic period.

We have observed that there was a substantial quantity of graves at former Greek Taranto in the late 3rd and 2nd centuries BC. In addition, there are graves of the same period from indigenous settlements of Salento. Most of these stem from the relatively large and prosperous 2nd-century settlements of Lecce and Brindisi. While the evidence for Lecce was often severely damaged and excavated many years ago (see Giardino 1994; Giardino et al. 2000), a well-preserved burial ground has recently been discovered in Brindisi (Andreassi/Cocchiaro 1988), dating to between the mid-3rd century and 1st century BC (*fig. 14*). The tombs have a fairly simple 'architecture' and contain only a few objects each, suggesting that those buried in the necropolis were either unable or unwilling to indulge in ostentatious display in the funerary domain. Compared to earlier Messapian graves and contemporary elite graves, these people probably did not number among the happy few of the town.

A few tombs dating to the later 3rd and earlier 2nd century BC have also been reported from native Salento centres that were less successful in the 2nd century BC. Foremost among these are four large and very special tombs originating from the sites of Oria (2) and Mesagne (2) in the northern isthmus area (*fig. 1*). Each of these tombs consisted of extremely large limestone slabs and contained an inhumation burial.[51] The scant information on the two Oria tombs indicates that they must have belonged to the same burial plot. Their contents appear to be closely comparable (*fig. 15* and *fig. 16*): both can be dated to about 150/140 BC and contain drinking vessels (*kantharos* or *mastos*), a wine jug (*lagynos*), a lamp, a series of platters and one or two ungentaria. In addition, the two Oria tombs appear to have contained a terracotta vessel of the Gnathia class dating to the 3rd century (i.e. between 70 and 100 years old) and one or more Greek wine amphorae.[52] The two Mesagne tombs originate from two different burial plots (some 700 m apart) and date to the first half of the 2nd century BC. One was found in 1988 and appeared to contain a Rhodian and a Cnidian (or possibly west-Cretan) wine amphora, a wine jug (*mykos*), a lamp, a strigil, *unguentaria* and a series of late 4th- and 3rd-century vessels (Apulian red-figured, Gnathia wares). A second equally large Mesagne grave displaying comparable features was discovered in 1999 and appeared to have been robbed. The few fragmentary objects that survived are still unpublished.

These four tombs from Oria and Mesagne in the first half to mid-2nd century BC strike us in

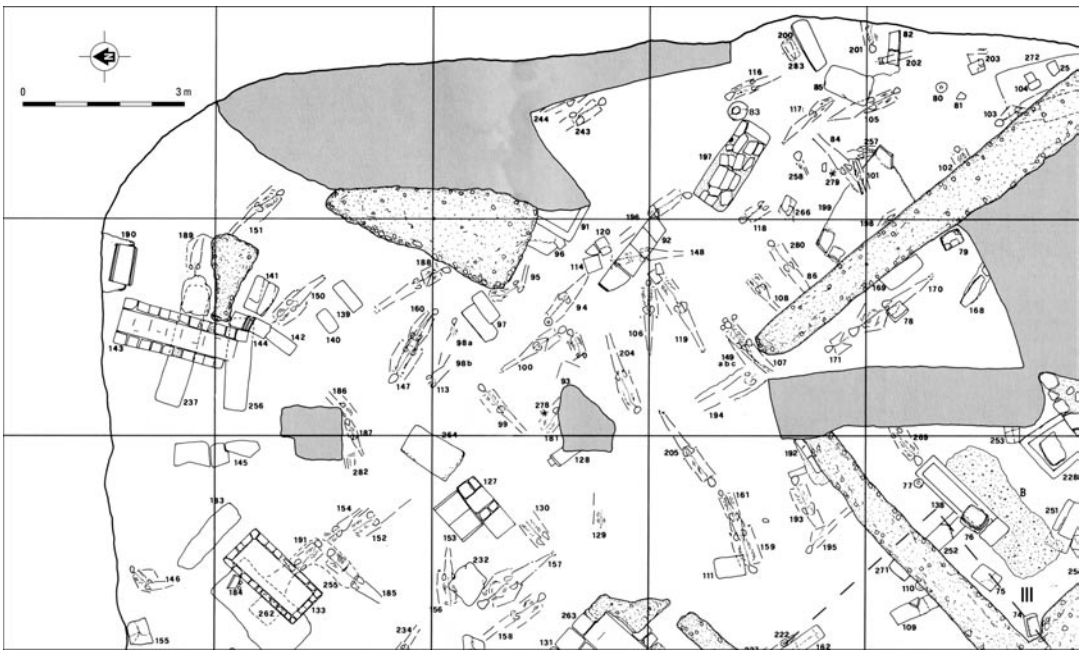


Fig. 14. Brindisi. Northeastern part of the extramural burial ground of the Via dei Cappuccini *(later 3rd to early 1st century BC; adapted from Andreassi/Cocchiaro 1988).*

Fig. 15. Oria (Brindisi district). Local elite burial of approximately the middle of the 2nd century BC with Rhodian wine amphora, Micro-Asiatic lagynos and 3rd-century BC Gnathia turreen (photo courtesy Graziella Maruggi).

Fig. 16. Oria (Brindisi district). Local elite burial of the third quarter of the 2nd century BC with Cretan wine amphorae, Brindisi oil amphora and 3rd-century BC Gnathia kantharos (photo courtesy Graziella Maruggi).

several respects. First and foremost, their architecture (large cist burials) displays strong links with the past of the Messapian elite. Such large elite tombs consisting of large slabs were first constructed in the late 6th century and continued to be made until well into the 3rd century BC.[53] The Oria and Mesagne tombs of the 2nd century BC, however, are much larger than the earlier elite tombs. The link with the native past is also stressed by the presence of ceramics that were at least fifty years old - and in the case of the 1988 tomb from Mesagne sometimes more than a hundred years old - when deposited in the grave. Secondly, they exhibit ties with Greek areas in the eastern Mediterranean by means of Greek wine amphorae and in one case (Oria tomb 1) by a

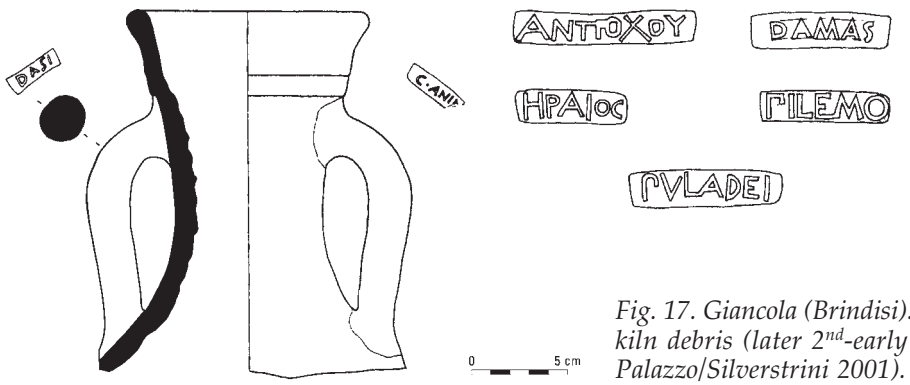


Fig. 17. Giancola (Brindisi). Amphora stamps from the kiln debris (later 2nd-early 1st century BC; based on Palazzo/Silverstrini 2001).

Micro-Asiatic *lagynos* as well. Thus the tombs suggest that both the Greek world of the eastern Mediterranean and the Messapian elite past were in some way important to the persons buried in these graves. Moreover, these four elite burials from northern Salento are among the most recent tombs displaying traditional Messapian burial customs.

It should be noted that the contents of these four Salento tombs have close parallels in both northern Apulia and the Marche area (Ancona), where elite tombs from approximately the same period have been found, displaying very similar features. The north-Apulian specimens originate mainly from the sites of *Arpi* and Canosa (Roman *Canusium*) and the closely allied, if not Canosa-dominated, settlements of Ascoli Satriano (ancient *Ausculum*) and *Salapia*.[54] Although these do not refer in an obvious way to a past tribal world (tribal society was still very much alive in Canosa in the period under discussion),[55] they retain some highly traditional features and appear to contain amphorae and other objects (Alexandrinian, or more probably Rhodian glass, fayence, wine amphorae) that stress the links between the *Arpi* and Canosa elites and the Greek eastern Mediterranean. The elite tombs from Ancona (Marche region) display the same 'eastern' connections (Mercando 1976; Colivicchi 2002). As manifested in the funerary domain, the elites of the south-Apulian Brindisi district appear to have been equally interested in elements that referred to an eastern Mediterranean present, but they also clung to a noble indigenous past.

It is perhaps significant that we encounter the rather modest graves of the later 3rd and early 2nd centuries almost exclusively in settlements that were later to become the major towns of the Roman period.[56] They are absent from the remaining walled centres of Salento which, according to the results of the urban surveys, were nevertheless anything but ghost towns in the period under discussion. The 'low visibility' of most of the burials may help account for this: less care may have been taken over burials for a substantial portion of the population. But it is also distinctly possible that an ever-decreasing number of people were given a formal, archaeologically traceable burial from about the middle to third quarter of the 3rd century. Both explanations, however, point to social change - perhaps greater social distinctions within the Messapian societies in the period following the Roman conquest of Salento. While the former tribal elite continued to prosper, expressing their wealth and status in sumptuous graves like those found at Oria and Mesagne, the former tribal farmers were becoming increasingly impoverished during the final years of the 3rd and the first half of the 2nd century BC. We may well ask whether Roman taxation and levies (cf. Brunt 1971) were external factors that acted as catalysts to change.

More information on social relations comes from the amphorae produced in the coastal area around Brindisi. As these can be dated to the second half of the 2nd century BC and much of the 1st century BC, they largely fall outside the scope of this paper. They bear stamps with the names of people in some way involved in producing these vessels and stem from a period of Salento history that is decidedly more recent than the graves discussed above. They may therefore reflect elements of a more recent social constellation.

Excavations carried out by a team under the direction of Daniele Manacorda (1988, 1990) and Paola Palazzo (1988, 1989) and analyses conducted by Philippe Dési (1989), Paola Palazzo and Marina Silverstrini (2000) have both demonstrated that the people who feature on the stamps were both workshop owners and slaves or artisans. It is striking that recognizably Messapian names are almost completely absent from this substantial set of names. While patrons/owners such as the An-

ninii, Vehilii, and Viselii are almost unanimously believed to be of central-Italic origin (albeit on extremely flimsy grounds; in fact the Anninii and Vehilii probably had Messapian roots),[57] the artisans almost invariably have Greek names, some of which evidently refer to slaves (e.g. Kerdos, Noumenios, Pylades, Philemon). Some of these were written in both Greek and Latin letters. Only two people have obviously Messapian names (Dasus/Dasius and Stabuas). Because such old-fashioned local names would hardly appeal to immigrants, these two men may have had Messapian roots (cf. Désy 1989). The information from the amphora stamps of the late 2nd and earlier 1st century BC suggests the presence of quite a number of slaves, perhaps some free artisans of lowly status and a group of owners who had enough money to invest in three or more slaves (*fig. 17*). The Anninii, Vehilii and Viselii belonged to the latter group and must have been prosperous inhabitants of Brindisi.[58] There is, however, no need to assign to all these owners of pottery workshops an elite status comparable to that of people like Rammius/Erennius or Statorius in the first half of the 2nd century BC.[59]

On the basis of the archaeological data discussed above, the following picture of the social landscape in early Roman Salento suggests itself. In the first half of the 2nd century BC, the Brindisi area (and perhaps Salento in general) had a highly prosperous elite who were connected in some way to the Aegean and/or other parts of the eastern Mediterranean. They adhered to traditional Messapian burial customs and were buried with heirlooms that probably referred to the traditional pre-Roman, 'Messapian' society of the late 4th and 3rd century BC. It is perhaps significant that these tombs are encountered in settlements which were originally walled native centres that survived as small towns in the Roman period and did not decline into hamlets or ghost towns (as many other Messapian towns did). Both Brindisi and Lecce, the substantial Salento towns of the Roman period and intensely inhabited until the present day, have produced ample evidence for the existence of a group of moderately prosperous town dwellers. They can be traced to between the mid-3rd and the mid-1st century BC. By the late 2nd century BC, the stamps on the Apulian amphorae testify to the presence of slaves, mostly of Greek origin; their numbers were probably fairly substantial. They made their pots in workshops owned by people whose names referred either to local origins or to central Italy and who could afford to buy three or more slaves. These workshop owners belonged to a prosperous, though not necessarily extremely wealthy, stratum of Salento society.

4.4. External relationships and newcomers

The stamps on the Brindisi amphorae discussed above suggest the presence of a substantial number of probably immigrant slaves. In addition to the epigraphical evidence, imported and exported objects can be adduced in order to provide evidence of external relationships. These can of course be both direct and indirect. The evidence for Salento consists mainly of pottery. While the ceramics of 3rd-century Salento were made almost exclusively in local or regional workshops, the Salento contexts of the 2nd century appear to contain many pottery fragments from other Mediterranean districts.

Foremost among the imported ceramics are the relatively rare amphorae from Cnidus, Rhodes, Cos and Crete, which ended up in elite graves and settlement dumps.[60] They contained good Greek wines. While these wine amphorae are relatively rare and were restricted to elite circles, 'Corinthian' B amphorae possibly originating from Corfu have been reported in considerable quantities (e.g. Désy and De Paepe 1990). They date mostly to the later 3rd and the early 2nd centuries BC. In addition to these transport vessels, there are limited quantities of fine wares from the eastern part of the Mediterranean (*fig. 18 nos 1-4*). They include West Slope pots and relief bowls from across the Adriatic, relief bowls with black to brown gloss and pots with a fine white slip from the west coast of Asia Minor, a few pieces of Syrian black gloss wares and early Eastern Sigillata A (Yntema 1995b, 1997, 2001). They all bear witness to Salento's contacts with the opposite shore of the Adriatic and the Hellenistic kingdoms of the eastern Mediterranean. Since almost all the amphorae and fine wares date to the end of the 3rd and the first half to third quarter of the 2nd century BC, these contacts must have been particularly intense in that period. The presence of fayence and Rhodian or Alexandrinian glass in elite graves of northern Apulia (e.g. Canosa) dating to approximately the same period reinforces this hypothesis.

The western Mediterranean is also represented among the imported pottery found in Salento. There is an unspecified quantity of amphorae of the Punic type, possibly from the western part of Sicily. Our digs at both Valesio (1984-1990) and Muro Tenente (1994-2002) have each produced a

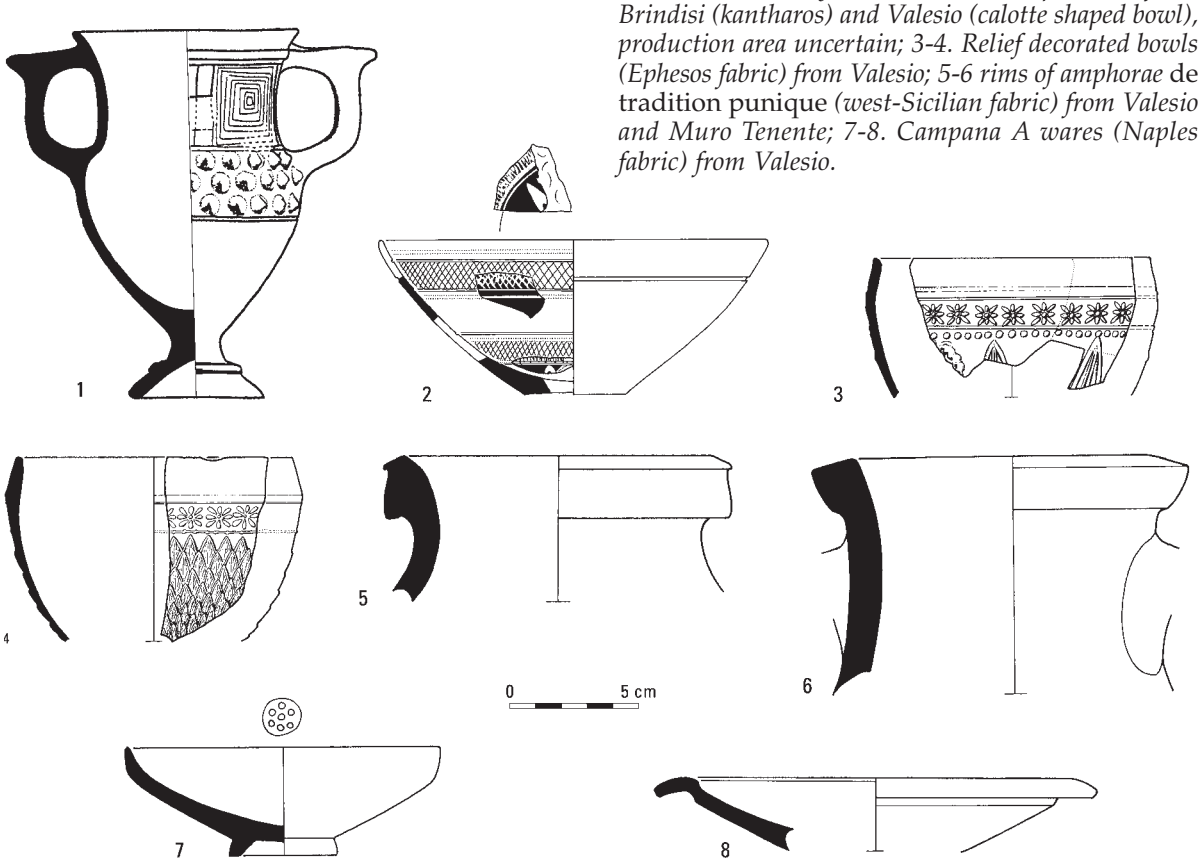


Fig. 18. Salento district. Imported pottery of the late 3rd and 2nd century BC: 1-2. West Slope wares from Brindisi (kantharos) and Valesio (calotte shaped bowl), production area uncertain; 3-4. Relief decorated bowls (Ephesos fabric) from Valesio; 5-6 rims of amphorae de tradition punique *(west-Sicilian fabric) from Valesio and Muro Tenente; 7-8. Campana A wares (Naples fabric) from Valesio.*

few specimens of this type of container vessel (*fig. 18 nos 5-6*).[61] They are present in contexts dating to the middle to later 3rd and earlier 2nd century BC. Western fine wares are represented by the black gloss class commonly called Campana A wares, which stems from the Naples area (e.g. Morel 1981; Yntema 2001). These made their appearance in the district under discussion around the mid-2nd century BC (*fig. 18, nos 7-8*).[62]

The Salento district not only imported pottery; it also exported ceramics, both with and without contents. Among the Salento fine wares that reached areas outside southern Italy, Gnathia pottery stands out because of its wide distribution (Green 1979). Although this class is traditionally dated to a period prior to the Roman conquest of Salento (e.g. Green 1968, 1971), it is now clear that considerable quantities of Gnathia wares were still produced during the mid- to later 3rd century BC. Especially the late phase of Gnathia wares, characterized by elaborate ribbing and only a limited quantity of painted ornaments, was widely diffused. This class is fairly common on the Dalmatian coast, and apparently rare in mainland Greece, but occurs in substantial quantities at Rhodes, Crete and the coast of eastern Libya and Egypt (e.g. Sidi Khrebish/Benghazi, Alexandria).[63] On the strength of the seriation of the Taranto tombs (Lippolis 1994, Gräpler 1997), many of these exported pieces can now be dated to the 2nd, 3rd and 4th quarter of the 3rd century BC and therefore testify to Taranto and other production centres in Salento having external contacts in the period after the Roman occupation. It should be noted that, once again, the eastern Mediterranean seems to have played a dominant role in these contacts (*fig. 19*).

It is uncertain whether any Salento fine wares or transport vessels were exported in the period from the end of the 3rd and the first half of the 2nd century BC. Some 30 Black Gloss pieces from Libyan Sidi Khrebish (Benghazi) may in fact be Apulian, which suggests that Apulian Black Gloss wares have simply not been recognized in the

eastern Mediterranean.[64] By about the later 2nd century BC, however, large quantities of Brindisi amphorae can be shown to have reached foreign shores. They were distributed throughout the Mediterranean, although once again the largest quantities are found in the eastern Mediterranean (cf. Cipriano/Carre 1989).

Changes in regionally produced classes of pottery may also be due to foreign influxes, testifying to direct or indirect contacts with other parts of the Mediterranean world. Since this is the perspective from which the various Hellenistic classes of Salento pottery are now being studied,[65] it may be useful to provide some general details here. With regard to the regionally produced fine wares of Salento, there is a marked eastern influence in the late 3rd and first half of the 2nd century BC. Some forms, which were without antecedents in the regional pottery tradition of Apulia and adjacent parts of Lucania, suddenly made their appearance in this period. Most conspicuous among them are the hemispherical cup (*mastos*) and the flask (*lagynos*) which occur in both imported and regionally made classes of fine wares (*fig. 20*), while the characteristic eastern Mediterranean technique for the production of mouldmade so-called 'Megarian' bowls was also adopted in southeastern Italy.[66] Influence from Tyrrhenian fine wares can be found in the later 2nd and early 1st century BC, when large plates and bowls current in the Campanian Campana A and Sicilian Campana C pottery were also produced in regional workshops in southeastern Italy. Both the eastern-Mediterranean and Tyrrhenian influence on pottery production in Salento coincide with imports of fine wares from these regions.

A remarkable instance of Tyrrhenian influence, however, can be found in the coarse cooking wares of the Salento peninsula. This class of pottery appears to be very common in Messapian settlements in periods both before and after the Roman conquest. The repertoire of forms consists mainly of deep to fairly shallow stewing pots used for simmering and casseroles in which food was baked (*fig. 21, nos 1-3*; cf. Yntema 1991, 178). These shapes have their antecedents in Greek-speaking areas and may be indicative of the massive adoption by the Messapian populations of Greek methods of cooking during the 4th century BC. In the last third of the 3rd century BC, however, a completely new type of cooking pot emerged in Salento alongside the traditional shapes. It is relatively tall and has a flat base and slightly out-turned rim (*fig. 21, no 4*). Such tall and flat-based cooking pots occur

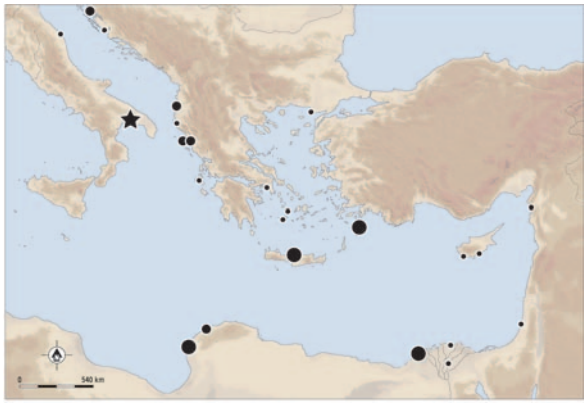


Fig. 19. Distribution of Apulian Gnathia ware (from Taranto workshops) outside southern Italy, 3rd century BC.

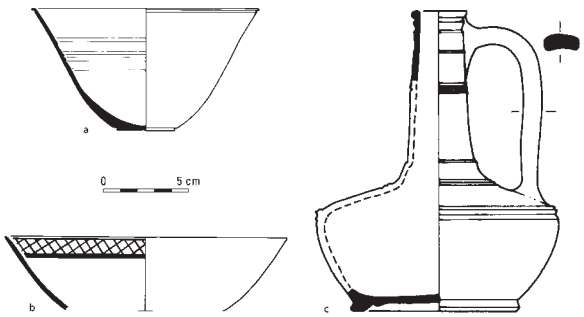


Fig. 20. Eastern shapes in Salento fabrics: (a) mastos *(Brindisi fabric: Hard Fired Red), first half of 2nd century BC; (b) calotte-shaped bowl (Brindisi fabric: Hard Fired Yellow), first half of the 2nd century BC; (c)* lagynos *(Taranto fabric: Apulian Grey ware), middle to 3rd quarter of 2nd century BC.*

in quite a range of sizes (capacity between approx. 0.20 and 1.0 litres), but even the largest specimens contain only about 50% of the contents of the average stewing pot of the traditional type. Although the shape of this new type of cooking pot has absolutely no precursors in Salento, it has a long history in central-Tyrrhenian Italy, hence the name 'Latial' cooking pots (Yntema 2001). The dimensions of the 'Latial' cooking pots and the traces of soot on the numerous vessels of this shape found during the excavations at Valesio between 1987 and 1990 suggest that they were used for simmering. This use differs markedly from the traditional Salento stewing pots, however. While the latter type probably contained the entire family meal, the 'Latial' cooking pots appear to have been used to cook various ingredients

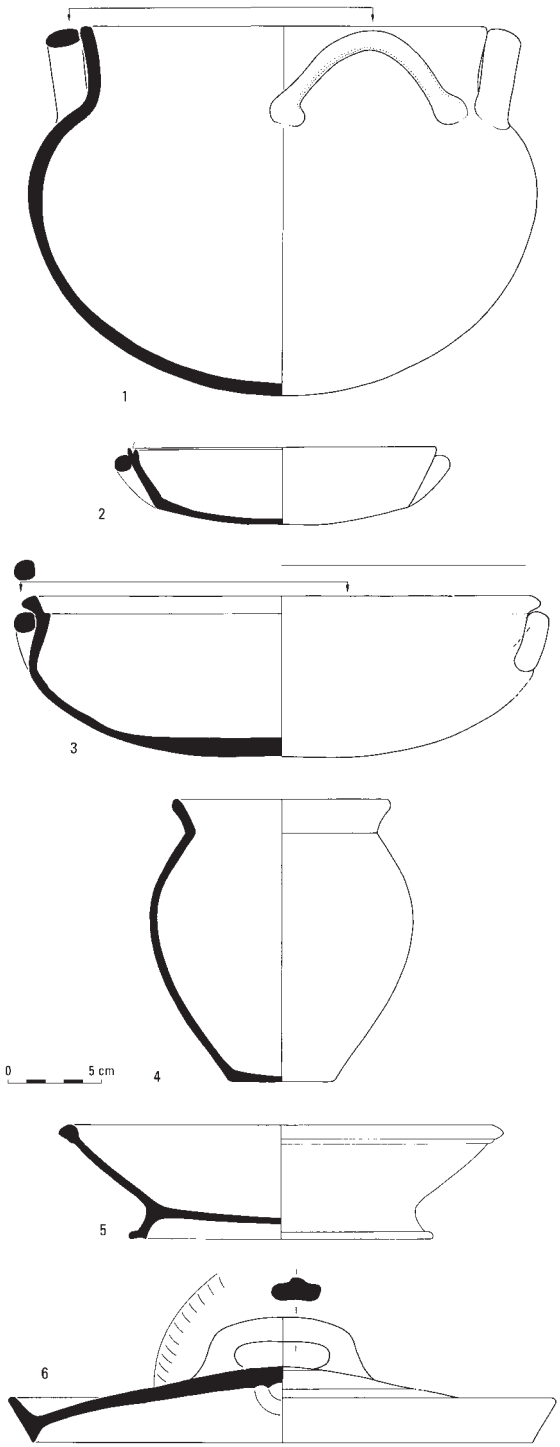


Fig. 21. Traditional and new ways of cooking in Salento: 1-3. Traditional Salento cooking pots with Greek pedigree (4th-early 1st century BC); 4-6. New cooking wares with central-Italic background (late 3rd-early 1st century BC).

that together made up a meal. The 'Latial' cooking pot is by no means the only new form of coarse ware in the ceramic samples of Valesio of the late 3rd century BC. At least four or five other forms made their appearance in the 3rd-/early 2nd-century contexts, including the characteristically Roman *clibanus* or baking lid (*fig. 21. nos 4-6*).

Thus the appearance of the 'Latial' cooking pot marks the introduction of a new method of cooking. Since it happened in the decades immediately after the influx of central-Tyrrhenian people into Salento (the foundation of the *colonia latina* of Brindisi in 246/244 BC), it is tempting to see a link between the two phenomena and to suggest that colonists from Rome and the surrounding areas were responsible for the introduction into Salento of what was probably in part a Latial method of cooking.

5. INTEGRATION OF ANCIENT WRITTEN SOURCES AND ARCHAEOLOGICAL EVIDENCE

5.1. Pictures produced in the past: the old story

The construction of post-Roman conquest Salento's past in particular and present-day Apulia in general has to be based on the two main sources currently available to scholars: the ancient written sources and the archaeological evidence. The picture that emerged from these studies until well in the 1990s was a rather dismal one (e.g. Toynbee 1965; Ghinatti 1977; Gabba/Pasquinucci 1979; Sirago 1993). Roman southern Italy was portrayed as a sparsely populated area of large ranches with extensive stock raising. People living in this depressing environment were thought to be mainly or exclusively slaves: the *villicus* (mostly a freedman) representing an absentee landlord, and the slaves who did the hard work. Substantial towns, which were invariably regarded as centres of culture in antiquity, were absent there, making Roman Salento a cheerless and culture-less landscape that held no attraction for further research.

The scanty ancient written sources impressed, so to speak, this picture upon the reader. Salento's misery was believed to have been substantially aggravated by the 'southern' episode of the Second Punic war (216-209 BC). Toynbee's *Hannibal's Legacy* (Toynbee 1965) has done much to promote an image of early Roman southern Italy that suspiciously resembles the sub-recent *Mezzogiorno* stereotypes (Gabba et al. 2001, 29). Since Salento is a district of southern Italy, modern historians of the ancient world clothed it in the same rags as other parts of the Roman *Mezzogiorno*. Salento

(and, in fact, every southern Italian district) laboured under a highly generalized image constructed for the whole of southeastern Italy. We should realize that this general picture of southern Italian poverty and submissiveness needs to be carefully checked for each period for which it is proposed.

The image of a once flourishing Salento reduced to a state of poverty and misery in the period following the Roman conquest and the Hannibalic war, was - it seemed - completely confirmed by the archaeological evidence. Many burials containing bronze vessels, Greek pots with figured decoration and other objects of high value (e.g. personal ornaments of gold) had been excavated since the 19th century. As greater insights were gained into the dating of Greek figured wares, many of the Apulian red-figured and Gnathia wares found in the Salento tombs appeared to date to the 4th or early 3rd century BC. It was thought that very few tombs could be dated to the 3rd and 2nd centuries BC. These partly incorrect data confirmed both Salento's 4th-century BC prosperity and Salento's absolute poverty in the period following the Roman conquest. In addition, the data collected during the settlement excavations carried out in various native walled centres since the 1970s made it patently clear that these centres flourished in the 4th century BC and had dwindled into insignificance by the 2nd century BC.[67]

Various biases were responsible for this archaeological picture of a poor early Roman Salento. First of all, there were the ancient written sources themselves, which were valued highly by those studying aspects of the classical world (including archaeologists). The landscapes they evoked were also entirely convincing. In fact, the few surviving texts by ancient Greek or Roman authors on this subject were fostered and treated with the utmost reverence: 'the widespread sentiment that anything written in Greek or Latin is somehow privileged, exempt from the normal canons of evaluation' (Finley 1986, 10). No-one seemed to notice that the image of a conquered Salento constructed on the basis of these texts closely resembled that, for instance, of conquered Greece (cf. Alcock 1993) and was too cliché to ring true. Moreover, the picture presented of a post-Roman conquest and post-Hannibalic Salento was exactly what we would have expected since it corresponded so nicely with 20th-century perceptions of southern Italy. Of course, chronologies can be adapted to such ill-conceived frameworks. This observation is especially true of Mediterranean areas where most chronologies are based on pottery sequences. Whoever truly believes that Salento was poor and depopulated after the Roman conquest is unlikely to find rich tombs from the 3rd and 2nd centuries BC.

The second bias influencing the image of post-Roman conquest Salento can be found in the archaeological data set itself. Although it is certainly not correct to say that all 'Messapian' settlements faded into insignificance after the Roman conquest, this did happen to quite a number of them in the late 3rd and early 2nd centuries BC (Yntema 1995a, Burgers 1998). Especially affected were the native walled settlements that were not built over in more recent times. These became the most likely target for urban surveys and stratigraphical excavations, completely confirming the cliché image of poverty and backwardness based on ancient written sources and 20th-century perceptions of the Italian *Mezzogiorno*. However, what actually happened after the Roman conquest was a hierarchization of the Salento settlement pattern. A series of formerly substantial native settlements was reduced to villages or hamlets. Other settlements retained their former status and size and a few Messapian towns developed into major regional centres (Burgers 1998). While the Salento isthmus between Taranto and Brindisi harboured at least ten fortified settlements around 300 BC,[68] the same area is likely to have contained only three towns with territoria in Roman times: Taranto and the *Ager Tarantinus*, Oria and the *Ager Uritanus* and Brindisi and the *Ager Brundisinus*. *Lupiae* (Lecce) was the principal Roman town in southern Salento (e.g. Giardino et al. 2000).[69] Since these four towns have survived until the present day, there is scant evidence for their Roman phase: Roman strata were obliterated by medieval and post-medieval activity and Roman building materials were recycled. In addition, heritage management of 'urban' archaeology in Apulia is still in its infancy. However, a recent review of the 'urban' evidence has revealed a more positive image of Roman southeastern Italy (Lippolis 1997). As we have seen above, it is especially the evidence regarding the rural sector that belies the traditional picture.

Nevertheless, this all means that we have to compose a new narrative about the early phase of Roman Salento. In the above sections, both types of evidence have been revised and updated, laying the foundations for the creation of another narrative on the area under discussion in early Roman times (i.e. between ca 260/250 and the late 2nd century BC).

5.2. Early Roman Salento: a new narrative

5.2.1. The decades immediately following the Roman conquest

The Roman conquest of 267/266 BC must have been a traumatic event for the various local groups in Salento. They (or at least some of them) had lost other battles against 'foreigners' in the past,[70] but they had never before suffered defeat at the hands of an enemy who controlled the rest of peninsular Italy. The prospects of regaining their independent status must have been rather bleak. It cannot have escaped the leaders of the Messapian tribal groups that Rome was the dominant power in Italy and that Greek princes from Sicily or from across the Adriatic (now the only alternatives to Rome) were unlikely to start military interventions in southeastern Italy after the Italian misadventures of, for instance, Archidamos of Sparta, Alexander the Molossian and Pyrrhus of Epirus. The Roman victory in the war against Pyrrhus and the Italian South was doubtlessly hard fought, but it was highly decisive. The *foedus* with Rome regulated the relationships of the Salento societies with Rome, while the foundation of a *colonia latina* - probably within the Messapian *oppidum* of Brindisi - made it absolutely clear to the conquered that things were happening in their world on which they had no say. This meant that from 246/244 BC onward, two political systems co-existed in Salento: the traditional Messapian system and the fundamentally Roman system of the *colonia latina* of Brindisi (Yntema 1995a). The events surrounding the arrival of the Romans and their further implications can be deduced from the written sources. These have been discussed in section 2 above.

Outside Brindisi and outside the arena of high politics very little happened. The numerous walled towns of the *Calabri* and *Sallentini* continued to be prosperous centres, probably with agriculture and stock raising as their key economic activities. The settlement areas of four walled sites in the Brindisi district, investigated by means of urban surveys, neither increased nor decreased in size; population density was also approximately the same as before the Roman conquest (Yntema 1993b, Burgers 1998). The mainly extra-mural sanctuaries of the Messapian groups continued to bind them together, while the rural farmsteads thrived in the countryside surrounding the towns (Boersma et al. 1991; Yntema 1993a). A substantial change can be observed in the funerary sphere, however. From about the mid-3rd century onward, a significant drop in the number of graves has been reported. As for craft, there are reasons to believe that local pottery production intensified in the second and third quarters of the 3rd century BC. This is especially true of the black gloss fine wares (Yntema 2001). Furthermore, the composition of the livestock of Valesio, only 14 km south of Brindisi, barely changed in the later 3rd century and no shifts can be observed in culling patterns in animal husbandry (Veenman 2002). These data indicate that there were no substantial changes in the pastoral strategies used by the people of that settlement. In the period immediately following the Roman conquest, the new elements for *Calabri* and *Sallentini* were their bond to Rome, the group of Latins in Brindisi, taxation and levies for Rome's foreign wars (the first Punic War and Illyrian War), and possibly partly dismantled fortification systems. It seems that in the second and third quarters of the 3rd century BC most aspects of everyday life in many Salento settlements were either unaffected, or only marginally affected, by the consequences of the Roman conquest.

5.2.2. The final third of the 3rd century BC

In the final third of the 3rd century BC the first series of major changes can be observed in the archaeological record. At the site of Muro Tenente, a peripheral quarter inhabited by town-based farmers and artisans was abandoned in ca 230/220 (Burgers/Yntema 1999). At about the same time a pottery workshop began production at Valesio in the very centre of the town, blocking a 4 m-wide main road (Yntema 1994). Urban surveys of walled towns in the Brindisi area show that the first shrinkages of their settlement areas can be dated to the period 230/200 BC. Moreover, burials almost completely vanish from the archaeological record, while the quantities of votive offerings deposited in the traditional sanctuaries of the Messapian groups display a marked decline (cf. D'Andria 1990).

Of course, the battle of Cannae in 216 BC marked the beginnings of a short period of crisis and turmoil in Salento. While troops from the area under discussion are likely to have played a role in the initial years of the Punic war (cf. the role of Dasius Brindisinus at *Clastidium* in 218; see section 3.4 above), Hannibal's stay in southern Italy during his attempt to take Taranto was a severe test of the loyalty of Calabrian and Sallentinian societies to the Roman cause. The years 213-209 must have been particularly tiresome. A few Salento towns went over to the Carthaginians; *Man-*

duria (ca 30 km east of Taranto) and *Uxentum* (Ugento in the southern tip of the Salento peninsula) are explicitly mentioned by Livy. But the fact that Livy does not mention important settlements on the Salento isthmus (e.g. the *colonia latina* of Brindisi, the large, major tribal centre of *Uria Calabra*, now Oria, only 35 km east from Taranto) may indicate that they - and along with them the vast majority of Messapian towns - remained loyal to Rome.[71] This hypothesis is reinforced if we consider that several high-ranking men with native Salento roots played a role in the final phase of the Second Punic war (Ennius on Sardinia) and in the three decades following that war (e.g. Rammius/Erennius' role in the beginning of the Third Macedonian war). It is unlikely that the Salento societies managed to survive this period of war unscathed. The towns that defected to Hannibal were doubtlessly punished by the Romans when they retook them in 209. The towns that stayed loyal to Rome - especially those on the Salento isthmus close to Taranto - must have suffered under the Carthaginian troops. Farmsteads outside their walls may have been destroyed and olive groves and vineyards may have sustained damage. Both the Oria and Valesio field surveys, however, have shown that there are no signs of a significant break in the rural occupation at the time of Hannibal's war: the isolated farmsteads and hamlets continued to exist.

To sum up, the image that can be constructed for Salento in the last third of the 3rd century BC presents both positive and negative aspects. It shows marked signs of change, which can be extrapolated from the written sources (the negative effects of Hannibal's stay in Salento) and which are equally clear from the archaeological data: there is an incipient reduction in the settlement areas of several towns, a sharp drop in the number of formal burials, a decline in the number of votive offerings in sanctuaries, but a strong continuity of rural occupation. It would, however, be going too far to hold Hannibal responsible for all the negative developments that occurred in this period. It should be noted, for instance, that the number of burials was already on the decline well before the second Punic War. If Hannibal's stay in southern Italy had any role in the long-term changes in this area, it was as a catalyst in - and certainly not as the cause of - such changes.

The archaeological record for the last third of the 3rd century BC perhaps displays the first signs of far-reaching changes that were to completely change the societies of Salento in the 2nd century BC. There is reason to suppose that social differences increased very considerably in native Salento during the later 3rd century BC. This process of social differentiation had a long history in the area, starting with the first formal burial in the final decades of the 7th century and the 'princely' tombs of the tribal chiefs of the late 6th, 5th and early 4th centuries (cf. D'Andria 1988). The 4th century witnessed the birth of wealthy, probably landowning, tribal elites that ranked well above the large group of moderately prosperous tribal farmers (Yntema 1993a). While the elite probably lived in the very centre of the Messapian walled settlements and were indeed buried in well-defined, elaborate burial plots (mainly 4th century BC) or sumptuous *hypogaea* (mainly 3rd century BC) in the same central area of the settlement, the tribal farmers lived in more peripheral parts within the town walls or on the farmsteads in the countryside surrounding the walled centre. In the later 3rd century BC, however, prosperous farmers had become invisible, although the probably elite-owned rural farmsteads where some of them lived still survived. Moreover, the often extra-mural sanctuaries, which were probably controlled by the elite and played a role in forging tribal or sub-tribal allegiance (Yntema 1995a), were in decline. Thus the reading of these data suggests that these substantial changes were the first signs of the decomposition of the tribal world of the Messapians. They herald the birth of the very different Salento society that emerged in the 2nd century BC.

5.2.3. The first half of the 2nd century BC

In the first half of the 2nd century BC Salento was again confronted by wars. This time Salento was the starting point for, rather than the victim of, warlike activity. The 'Greek' wars[72] were all fought in areas for which the Salento peninsula, as Italy's bridgehead to the eastern Mediterranean and separated from Epirus and Corfu by the narrow, 70-km wide Strait of Otranto, was superbly placed to serve as both starting point and provisioning base for Roman campaigns. Dozens of passages in Livy's accounts of these wars confirm that this was in fact the case. Salento in general and Brindisi in particular played a key role in Rome's military actions against the Greek states of the southern Balkans.

According to these same sources, the Roman praetors assigned to Taranto or Apulia faced very substantial unrest in their province, mainly in the decade between 190 and 180 BC. Livy describes these difficulties as a 'slave revolt' (*motus servilis*) and 'herdsmen's conspiracies' (*pastorum coniura-*

tiones), but we should be careful not to take these words too literally. Although slavery is likely to have occurred in the tribal societies of Salento, we should question whether it was sufficiently widespread in the early 2nd century BC to trigger massive slave revolts. Of course, a large influx of new slaves in the area under discussion may indeed have occurred as a result of the Second Macedonian War (200-197) or the first clash with the Aetolians (192-189), but it is highly debatable whether the economic infrastructure of southeastern Italy was in a position to suddenly absorb the thousands of new slaves needed for a decent slave revolt.[73]

Section 4.2, moreover, has demonstrated that urban surveys suggest a very substantial decrease in the settlement areas of many fortified towns during the first half of the 2nd century BC. At Valesio (14 km south of Brindisi), for instance, the originally 30 to 35 hectare habitation area (of the approx. 80 hectares within the walls) declined to about 17 to 20 hectares in the late 3rd century and did not exceed 5-6 hectares around the mid-2nd century BC (Yntema 1993b). Comparable decreases can be found in at least three other walled sites of the Brindisi area, a fate which may have been shared by many Messapian settlements (Burgers 1998). Thus these towns sustained extremely heavy population losses. Judging solely by the shrinkage of their habitation areas, they may have lost up to 60 to 80% of their inhabitants between ca 250 and 150 BC.[74]

While many Messapian settlements declined, Brindisi boomed. It became a regional centre of considerable consequence and must have had a very substantial number of inhabitants by the mid-2nd century BC. The *colonia* ranked first in the now pronounced regional settlement hierarchy. It was also Italy's second largest port and the launching pad for Roman enterprise in the eastern Mediterranean. It harboured craftsmen working for both naval and overseas activities and the regional market. Vibrant Brindisi expressed its newly-won status in an urban sanctuary whose temple was decorated with magnificent capitals (2nd century BC). Alongside Brindisi there were a few towns of secondary importance like *Lupiae* (Lecce), *Uria Calabra* (Oria) and Gnathia which also had urban cult places. Otranto (*Hydruntum*) and Ugento (*Uxentum*) may have had a comparable status in the southern tip of Salento.

We have seen that changes also affected rural sites in the first half of the 2nd century BC. In general, the hamlets survived, but the number of isolated rural farmsteads fell by about 30-40 %. However, the more than 50% that survived were two to four times larger than their predecessors. Thus the farms of the mid- to later 2nd century BC probably had a much larger population than those of the 3rd century BC. While the number of inhabitants of the larger, walled settlements probably fell sharply (perhaps from a few thousand to a few hundred), those in the rural area surrounding these settlements may have risen.

However, these patterns of severe urban decline and substantial continuity or even growth in the rural areas are unlikely to hold for every area in Salento. It should first be noted that most of the field surveys have been carried out in the northern part. As a result, the patterns for rural occupation may reflect a general trend that applies only to that area. Brindisi occupied a special position there, which means that developments in the hinterland may have differed from other parts. We have seen above that the decline of many former fortified settlements was contemporaneous with the steep rise of Brindisi (and probably Lecce). However, this phenomenon would probably only partly compensate the losses sustained by other former larger settlements. All in all, the population trend in Salento between the late 3rd and mid-2nd century BC is likely to have been a negative one.

The funerary evidence seems to reflect this pattern to an extreme. In the first half of the 2nd century BC, a fair number of burials in substantial and coherent burial plots occurred exclusively at Brindisi and Lecce (Andreassi/Cocchiaro 1988; Giardino 1994).[75] Burials of the period under discussion are absent from the remaining - formerly larger - settlements. The same holds for the large number of small rural settlements. The grave groups close to the isolated farmsteads and hamlets can invariably be dated to between the late 4th and the mid- to later 3rd century BC. Although more than 50% of the farmsteads can be shown to have thrived in the 2nd century BC, no graves of this period have been reported. The almost complete absence of burials outside the new centres of Salento surely does not indicate that no people lived or died outside the walls of Brindisi and Lecce. From these data it must be concluded that the funerary practices in these two fast-growing towns differed from those in the dying 'urban' settlements and the rural settlements of the Salento district.

Such differences in funerary practices within the same area may have a variety of causes. They can be ascribed, for instance, to the co-existence in the same district of different ideas about burial rites: the new Latin settlers at Brindisi probably differed

in this respect from the native population of Salento. This observation does not of course explain the profound changes in funerary rites (i.e. the disappearance of formal burials) in many other settlements. The differences may therefore be due to variations in the social composition of the population between settlements within the same district: the social stratification at flourishing Brindisi may have differed from that of settlements like Valesio and Muro Tenente that were in great decline. Since the only graves found in the areas away from the new booming centres (Brindisi, Lecce) of the early Roman period are the highly traditional and wealthy tombs found at Oria and Mesagne (see section 4.3), the latter factor may well explain the problem discussed here. By the first half of the 2nd century BC, the social landscape outside the new regional centres of Brindisi and Lecce was probably composed on the one hand of a very small group buried with ostentatious display and with links to a rich Messapian past and an eastern Mediterranean present, and on the other hand of a much larger group of poor people involved in agriculture. Those descended from former tribal elites or posing as such can be traced, but the artisans and tribal farmers (still traceable in the 3rd century BC) cannot be found in the Salento funerary record of the earlier 2nd century BC.

It should be noted that the 'native' sanctuaries near the declining settlements also experienced a steep decline in the period under discussion. They probably played a key role in the tribal societies of Salento. It was in these sacred places that the cohesion between tribal or subtribal units was emphasized (Yntema 1995a). Several of them, however, had ceased to exist before the mid-2nd century BC. This also happened at the former tribal centre of Oria, although it did survive as a Roman *municipium*.

In the first half of the 2nd century BC, therefore, Salento is likely to have witnessed a series of highly dramatic changes. Most obvious was the enormous increase in social differences. We may assume that the regional magnates with a high 'international' status evident in both the ancient written and archaeological sources were the most eminent representatives of a class - often it seems with Messapian roots - that may have owned large plots of land and many farmsteads. These farms produced mainly cash crops such as corn, wine and olive oil (cf. Graeco-Italic amphorae, Brindisi amphorae, Varro, *RR* 2.6.5). The Valesio bone sample suggests that pork may have been another product of these farms: we observe here a sudden increase in the rearing of pigs between the end of the 3rd and the mid-2nd century BC (Veenman 2002).

The ancient written evidence indicates that some of these eminent men were probably involved in overseas trading, which would make them both large landowners and large-scale traders. They may also have organized in some way the transport of products from their farms to the coastal area, carried out by *mercatores*, and the packing of the products on the coast. Much of the agrarian production of the Salento district may in fact have been in their hands. They were not just the social and economic elite of Salento, but must also have played a similarly key role in regional politics, some even figuring on the international stage (cf. Rammius/Erennius' role in the early 3rd Macedonian war). This perhaps also explains why the majority of these men professed to come from Brindisi. They may well have had their roots and possessions elsewhere, but they had moved to Brindisi or possessed a *pied à terre* there, simply because it was both the economic focus of the district and the new regional centre of power. If they wished to gain or retain any political influence in the region, Brindisi was the place to be. Many, if not all, members of this highly prosperous Salento elite spoke both Latin and Greek. The poet Ennius from the Salento town of *Rudiae* was no exception. The noblemen of Brindisi and other former Messapian towns travelled widely. Some were important enough to befriend both Greek princes and Roman senators and to be granted a *proxenia* by a Greek sanctuary or state (section 3.4). Since many had their roots in the Salento region, they also spoke Messapic and demonstrated their allegiance to the Messapian tribal past. For instance, they were buried in the traditional Messapian way with a number of 'heirlooms', and with amphorae from Cos or Rhodes containing exclusive Greek wines that showed their links to the Greek world in the eastern Mediterranean. Since the Greek Hellenistic world was perceived as the epitome of refined culture by both *Rhomaioi* and *Italioi*,[76] these Salento gentlemen presented themselves in their graves as highly cultured people.

The Salento elites of the early 2nd century BC were not the only Italic group to display such economic and mental ties. They were, in fact, highly comparable to the contemporary 'Daunian' elites of the north-Apulian *Arpi* and Canosa areas (Roman *Canusium* and surroundings), who were in equally close contact with both Romans and Greeks (cf. Sirago 1993 and Silvestrini 1998) and were buried in large chamber tombs or hypogaea in the

traditional 'Daunian' way.[77] These mainly early 2nd-century elite tombs of Daunia also contained the precious and rare glass vessels from the eastern Mediterranean and mostly Greek wine amphorae.

At the other end of the social scale were the slaves and the former tribal farmers. Judging by the thousands of Messapian tombs dating to the late 4th and earlier 3rd centuries BC, the latter group must have been relatively prosperous in that period, but the subsequent changes observed in the settlements, the funerary sphere and the tribal sanctuaries suggest that they became decidedly less prosperous and 'tribal' in the final decades of the 3rd century BC. The farmers of the 2nd century BC elude us almost completely in the archaeological record; their presence can only be postulated because substantial farmsteads existed in that period housing some 20 to 30 people. Of course, social stratification was already on the increase before the Roman occupation of Salento. But what happened to the social group of Salento farmers in the early 2nd century BC was truly dramatic. If we do not accept the possibility that all the Messapian farmers migrated and were replaced almost overnight by slaves (which I find highly unlikely), then a substantial number of them became peasants who worked the lands of the elite-owned farmsteads.

We may well ask how they came to be in that position. It is probably too easy to come back to the seemingly evolutionary process of increasing social stratification in the Messapian societies (starting in the Iron Age) that has been mentioned above. Of course, the difficult situation in the Hannibalic war may have accelerated the steadily increasing social disparities. Salento is likely to have sustained considerable damage during Hannibal's siege of Taranto, but it remains unclear why these acts of war of themselves could bring great wealth to the landowning elite and great poverty to the tribal farmers. Since the war did not inflict long-term damage on Salento agriculture (by the early 2nd century BC Salento was actually *exporting* agricultural products), large landowners may have had a somewhat better chance of surviving a succession of difficult years than small farmers. But this factor alone hardly accounts for the enormous rise in social differences in Salento in the late 3rd and early 2nd centuries BC.

It should be realized, however, that Rome's repeated demands for troops may have had a much greater impact on Messapian society (cf. Brunt 1971, De Neeve 1984). We have no information on this subject for the first 40 years following the Roman occupation of the Salento peninsula, but since Brindisi was one of the starting points for the Illyrian war in 229,[78] contingents of *Calabri* and *Sallentini* may well have numbered among the auxiliaries. The Hannibalic war, in which Italy itself was the battleground for quite a number of years, was an entirely different matter. Although Livy - understandably - portrays this war as very much a Roman affair, contingents of *socii* may have played quite a substantial role in the fighting. The numerous emergencies provoked by Hannibal's presence are likely to have required a fairly massive input of Italic troops in general. As we have seen above, snippets of information in ancient written sources indicate that Messapian troops were indeed involved. They were probably present in the Po valley in 218 BC (Dasius Brundisinus at *Clastidium*), they possibly fought at *Cannae* in 216,[79] and can probably be assumed to have served in Sardinia in 204 (Ennius' 'assignment'). These two or three instances, very casually mentioned by Livy, Silius Italicus and Nepos, may be just the tip of the iceberg. Since the vast bulk of the Salento population was active in farming and stock raising, the vast majority of the men in the contingents of Messapian *socii* must have been farmers. We should also bear in mind that the 2nd Punic War was not the only war fought by the Romans in the late 3rd and 2nd centuries BC: Salento was often the area controlled by Rome that was closest to the scenes of fighting (cf. Macedonian, Syrian/Aetolian and Achaean wars). Thus there is reason to believe that substantial groups of Messapians fought for Rome for many years between ca 230 and 150 BC, often in Mediterranean districts that were relatively far from home. An almost structural absence from home of larger groups of Messapians was an entirely new phenomenon which presumably had devastating effects on smallholders. It certainly helped to turn small tribal farmers into peasants (cf. Brunt 1971; De Neeve 1984).

In addition to the above factors, the macro-economic developments in the Mediterranean of the late 3rd/early 2nd century BC were not particularly favourable to small farmers. This period of Mediterranean history is characterized by two closely interlinked phenomena: (a) increasing specialization on particular products in particular regions, and (b) strong intensification of interregional trade and exchange systems. Salento was drawn into larger economic systems in an early variant of the globalization process. In this respect the later Hellenistic times represented a decisive step towards a marked regional specialization. This happened

in an almost pan-Mediterranean market that emerged in its most marked form in the Roman Imperial period, when *Africa Proconsularis* stood for olive oil and *Aegyptus* for corn. It is perhaps not purely coincidental that the monetarization of the Salento societies took place in the same period. Bronze coins minted at Brindisi between ca 215 and 150 BC (Boersma/Prins 1994) and Roman *asses* displaying *Ianus bifrons* and the *prora* minted between ca 165 and 145 BC appear to be common in the 2nd-century BC strata of the site of the dying town of Valesio.

These economic developments of the early 2nd century BC were highly problematic for smallholders. They required a significant change to agricultural strategy and substantial investments.[80] And both had to be achieved in a relatively short period. If the small Salento farmers were in any position to decide for themselves by the late 3rd/early 2nd century BC (and were not - or had not become - strongly dependent on the former tribal elite), they were unable to invest and participate in large-scale cash crop farming and thus meet the new demands of increasingly supra-regional markets (Yntema 1993a, 211). The combination of the rapidly changing economic situation and the far-reaching social and political changes discussed above (increasing social stratification, farmers fighting for Rome, and peasantization) meant that the small farmers were badly off. They became the underdogs in an elite-controlled peasant society, ranking only slightly above slaves in terms of status.

This scenario of rural misery and distress may apply to quite a number of the early 2nd-century, former tribal farmers of Salento: they became tenants and farm-hands, mainly or exclusively working the fields of the large farmsteads owned by the wealthy members of the former tribal elites and prosperous Latin settlers. Livy's 'slave revolts' and 'herdsmen's conspiracies' in these years may in fact have been peasant revolts sparked off by the severe decline in the former farmer's income and social status; they can perhaps be read as signs of widespread discontent among the new peasants of Salento and other parts of southeastern Italy.[81]

There is, however, no reason to suspect that the former tribal farmers were all reduced to such a humble status. While the new Salento economy of the early 2nd century BC was probably a disaster for small agricultural units, it created great opportunities in other areas of the regional societies. For instance, flourishing Brindisi with its superb harbour offered excellent opportunities, particularly for craftsmen. The potters, smiths, stonemasons and carpenters of the dying, former urban centres of Salento who had lost almost their entire clientele were probably able to exercise their craft in the rapidly growing towns of Brindisi and Lecce. New, specialized crafts may have come into being. While the archaeological evidence suggests that the processing of wool, for instance, was a household activity in Salento in the 3rd century BC,[82] it may have become a specialized *métier* involving fullers and cloth makers in the 2nd-century BC Brindisi area. The buzzing town with its natural harbour offered work for people involved in such trades as ship building and ship repairs, and for shopkeepers, pedlars and those in other forms of retail trade. Some of the small farmers of Salento who lost or sold their lands may have found employment in rapidly expanding Brindisi.

The increasingly close links between the former Messapian society and the Roman world created still more opportunities. It should be noted that the Salento 'crisis' of the early 2nd century BC coincided with the pacification of the Celtic tribes in the Po valley. Control of this area was brought about by the foundation of a series of *coloniae* in the 80s of the 2nd century BC, the foremost of which were *Bononia* (Bologna), *Mutina* (Modena), *Parma* and *Placentia* (Piacenza). The *colonia* of *Aquileia*, founded in 181 BC (the predecessor of Venice in the *Caput Adriae*) was another new, fast-growing town in the far north. People belonging to the *socii* of Rome could in principle be included in the groups of new settlers (Gabba 1989, 212), thus acquiring both land and Latin citizenship. There are indeed reasons to believe that substantial groups of Salento farmers emigrated from the far south to take part in colonizations in northern Italy (cf. Verzar Bass 1983). Quite a number of inscriptions from northern Italy of the 1st and 2nd centuries AD bear the names of *gentes* who may have had Salento backgrounds (cf. *gens Ennia*, *gens Egnatia*). It would certainly be going too far to see the Ennii of the Po valley as the descendants of the poet Quintus Ennius of *Rudiae*. But it is at least an attractive hypothesis that they might be southern immigrants who originally belonged to the clan or *clientela* of the elite family of the Ennii from *Rudiae* and/or other Messapian towns. We should, for instance, remember that the poet Ennius was prominent in Rome during the period in which these northern *coloniae* were founded.[83] When speaking with his patronus M. Fulvius Nobilior, he may have put in a good word for his impoverished tribal farmers who had fought in Nobilior's army in Greece. It should also be re-

membered that Nobilior's son Quintus was very much involved in the foundation of colonies between 190 and 180 BC.[84] Other influential Salento elite families with good contacts in Rome such as the Rennii, Pulfennii and Statorii may have done the same.

Early 2nd century BC Salento was a rapidly changing, highly dynamic world. Of those former Messapians who continued to live in Salento, a few acquired great wealth and befriended Roman senators and Greek princes, while others were well-to-do large landowners of regional significance. Much larger groups, mainly former small farmers, were reduced to poverty and became peasants. But substantial groups - made up of both artisans and small farmers - probably migrated from their native home towns. They went to Brindisi, Rome and Corinth, but especially, it seems, to northern Italy. They found prosperity in districts that were sometimes hundreds of kilometres from their places of origin. It is likely that many of these migrants participated in the formation and development of new societies on the borders of the expanding Roman state. These people with Salento roots contributed to the Romanization of *Gallia Cisalpina*, not to the Romanization of Salento, and may claim their rightful place in quite a different narrative about the past.

The first half of the 2nd century BC was therefore a critical period in the history of Salento. It witnessed the genesis of a Salento society that differed in many respects from the Messapian world of the 4th and 3rd centuries BC. Politically, Salento increasingly became a constituent part of the expanding Roman state, while intensifying its links with the Greek kingdoms of the eastern Mediterranean. In social respects, the period is characterized by complete loss of tribal cohesion (detribalization) demonstrated, for instance, by the disappearance of tribal sanctuaries on the one hand, and by dramatically increasing social differences in *rural* areas on the other. This period also saw the rise of a class that included artisans, small merchants and pedlars, making Brindisi a consumer town,[85] whereas the earlier Messapian walled settlements of the 4th/early 3rd century BC - with their high percentage of farming inhabitants - had definitely been producer towns. The religious and political rites that bound the members of this new society together were no longer performed in tribal sanctuaries outside the settlements, but took place in the very centre of town (cf. Yntema 1995a). In economic respects, Salento flourished as never before. Large farmsteads nestled amidst cornfields, vineyards and olive groves produced cash crops for far-away markets. Wool and pork may have been produced in unprecedented quantities and the flourishing port of Brindisi is likely to have been an important centre of artisan activity.[86]

The Salento district changed enormously within one life span. Moreover, the changes affected almost every sector of local societies. Almost nothing remained as it was. Even the physical landscapes in which people lived changed utterly. Several pre-Roman towns were reduced to villages, while others boomed. A countryside littered with small farms and divided into small plots of land producing a variety of products predominantly for local or regional use was transformed into a landscape of much larger farms, large cornfields, large vineyards and large olive groves producing mainly for far-away markets. If Ennius, who was born in 239 BC, had left his home district early in the Second Punic war at the age of 20 and returned to *Rudiae* shortly before his death in 169 BC without intermediate visits, he would have been astounded: of the world he remembered from his youth, almost nothing had survived into his old age.

6. CONCLUSIONS

As we have seen in section 3, data from the ancient written sources about Salento in the approximately 100 to 150 years following the Roman conquest can inform us about various topics. First of all, they give us the dating of some key events that occurred in Salento: they supply information on the *histoire événementielle* by presenting the moments in Salento's history that the authors - who were mainly Roman - believed to be of major importance. These were the defeat and bondage of the Salento polities to Rome with an increasing loss of independence (the Roman victories of 267/266), a blatantly Roman infringement on local societies (the foundation of the Latin colony of *Brundisium*, 246/244 BC), a major war fought in and near Salento (Hannibal, 216-209 BC) and the *motus servilis* and *pastorum coniurationes* (probably a peasant revolt) of the years 186-181 BC. Since these events must have had a substantial impact on the regional societies of Salento, they may also have numbered among the *évènements* remembered by the inhabitants with roots in the district as important landmarks in the past as they saw and experienced it. Thus Q. Ennius (239-169 BC), the Salento native and Roman poet, may have heard stories from his grandfather about Pyrrhus' elephants, the battle of *Ausculum* of 279

and the Roman troops entering and perhaps plundering his hometown of *Rudiae* in 267/266 BC. When in Brindisi, he may have told his sister's young son, the later Roman painter and playwright Pacuvius (ca 220-130 BC), about these 'historical' events, about the major turning points in the war with Hannibal and about his personal experiences in the battle of Cannae or his stay in Sardinia.

In addition to these events, the ancient written sources provide information on a second topic: the topography and the quality of the soils. They tell us the locations and names of a series of settlements. The names can usually be linked to sites, although there are many more sites in the archaeological record than names in the ancient written sources.[87] Information on soils can of course also be obtained from modern geophysical research, but since the soils in Salento have changed considerably (e.g. through severe surface erosion, highly destructive deep ploughing), it is often difficult to obtain the desired results. All these pieces of geographical information contained in the ancient written sources help form the backdrop against which the events and medium-term developments were staged. They may also tell us how outsiders perceived the district in the period under discussion. But to be frank, these comments on Salento barely go beyond the usual clichés and platitudes expressed about many regions in the Mediterranean: the soils were good, but the area was thinly populated and there were no towns to speak of. As we have seen above, the latter two features in particular figure among the recurring stereotypes used to describe conquered, town-dwelling societies: they are poor in people, poor in culture and not particularly prosperous (cf. Alcock 1993).[88] This aspect of the written sources is therefore not especially informative and may even prove deceptive.

Data of a seemingly comparable nature are given for a third aspect of early Roman Salento: the district's role in traffic and trade. Information in the ancient written sources about this field appears much more solid, however. The literally dozens of completely casual mentions of Salento in general and Brindisi in particular (for instance by Polybius and Livy) as the point of departure for crossings to Greece and/or a provisioning area for the Roman armies operating in Greece indicate that these passages were not just clichés: Salento actually *was* a crucial area for the conquest of Greece and the provisioning of the Roman armies in the southern Balkans. It was also equally vital to shipping and trade between the eastern and western Mediterranean in mid- and late Hellenistic times with its ever-intensifying interregional contacts resulting from an ever-increasing regional specialization. The intensity of these contacts and the degree of regional specialization reached great heights in the Roman Imperial period.

A fourth subject about which the ancient written sources inform us is that of eminent Salento men. Greek inscriptions, where we encounter Rennius, Pulfennius, Statorius and Dazos, provide appealing evidence. If we link these inscriptional data to the evidence from Roman literary sources about people with Messapian roots (the unfortunate Dasius Brundisinus, the influential Rammius or Erennius of Brindisi, the venerated poet Ennius '*Rudinus*' and the painter/tragedian Pacuvius), we gain useful insights into the functioning of a particular, highly prosperous social group living in the period directly after the Hannibalic war. While data concerning traffic, economic activities and interregional contacts can frequently also be gleaned from archaeological sources, this particular type of information about people can only be derived from a combination of ancient literary sources and inscriptions. For instance, we learn about their links to other Mediterranean areas and sometimes about how Greeks and Romans perceived them. We are also offered tantalizing glimpses of the identities they constructed for themselves in particular situations.

Information on the same subject can also be found in the archaeological sources. These, too, concern eminent men of early Roman Salento. Their graves and the burials gifts they contain tell us about how they presented themselves in the society where they had their roots. In their graves, they appear as wealthy noblemen with evident links to a rich native past and an opulent Greek presence. Although posing as Romans in the inscriptions in the great Greek sanctuaries, their burials in Salento bear no traces of their 'Roman' identity: in the society of their 'roots' they stress their noble native origins and their contacts with the elites of highly cultured Hellenistic Greece and other parts of the eastern Mediterranean (cf. Yntema, in print). In this particular field there is a happy marriage between archaeological and ancient written sources.

It is not really surprising that the archaeological evidence on Salento illustrates mostly medium-term developments, the Braudelian *conjonctures*. It is widely accepted that archaeology has an enormous contribution to make to the construction of the past in this particular field. Data collected by means of rural and urban field surveys inform us

about population trends, changes in rural and urban settlement and changes in settlement hierarchy. Moreover, social and religious change can be studied on the basis of results from both field surveys and excavations. Changing settlement patterns have social implications, but shifts in the location of religious activities have implications for both the religious and the social landscape. The excavation of cemeteries and sanctuaries provides valuable evidence on social change and the changes in ritual domains.

Ancient written sources on the Messapian world in the aftermath of the Roman occupation are absolutely scarce. Nor, at first glance, are archaeological sources particularly abundant. But a small number of excavations and a series of intensive field surveys appear to have produced useful ideas on quite a number of aspects of Salento societies in the later 3rd and earlier 2nd centuries BC. These two types of sources provide information on different levels. Whereas archaeological sources tell us about developments covering time-spans ranging from decades to centuries, the ancient written sources tell us about events, people and personal views. In quite a number of cases these two sources seem to converge (e.g. economic issues, self-representation of the elite) or to complement each other (e.g. the decline of tribal farmers). Indeed, if we integrate both types of sources on the past (e.g. the picture of the Salento elites of the early 2nd century BC), attractive images of the early Roman phase of Salento start to emerge. Together they produce a nuanced approach in which both the textual and archaeological interpretations can sometimes be tested to establish possible biases.

In this way we begin to see the general outlines and some of the details of another narrative on the former Messapian, now Roman, world in the region and period under discussion. Some of these have been presented in the above sections. In this story about the past, the poor and desolate Roman South of Toynbee (1965), Gabba & Pasquinucci (1979) and Sirago (1993) does not suddenly appear to be a world of opulence for all tiers of local societies. But the integrated approach at least liberates us from the long shadows of the subrecent *Mezzogiorno* that were cast upon Salento and other parts of Roman southern Italy during the 20th century. Early Roman Salento was certainly not a piteous and unresisting victim of Roman occupation, Hannibalic devastations and colonialist imperialism of the Roman senators and their friends. It was a dynamic world that evolved from a tribal society into a constituent part of the Hellenistic-Roman world as a result of a combination of internal and external forces. The present narrative shows an early Roman Salento that underwent enormous changes, which - while highly beneficial to some - were rather disadvantageous to others. By the early 1st century BC the Salento landscape consisted of both boomtowns and ghost towns, of vineyards, olive groves, cornfields and substantial farmsteads, and certainly not solely of thinly populated wastelands with flocks of sheep and goats. The stereotypical absentee landlords (preferably living in Rome) have been replaced by regional noblemen often, it seems, with Messapian roots, who lived and were politically active in *Brundisium* (Brindisi) or *Lupiae* (Lecce). The number of small tribal farmers declined and some became peasants, but the expanding Roman state and the booming economy also offered this group new challenges and prospects. Salento people living in these evidently stirring times were thus actively involved in the 'Mediterranization' of their district. Moreover, they sometimes participated in the formation of a substantial series of - to all appearances - Roman communities that were hundreds of kilometres from their Messapian roots: the *coloniae* of the northern Adriatic and the Po valley.

Of course, early Roman Salento may appear to be an exception to the general rule of a highly impoverished Roman South as laid down by Toynbee and others. Other districts of southern Italy and later periods of Salento's Roman history may bear a much closer resemblance to what I have called the 'cliché image' of the poor Roman *Mezzogiorno*. The present case, however, is a warning against accepting images of the past that are based on an uncritical selection and 'easy' interpretation of a limited set of partially biased ancient written sources.

The combined information from both historical and archaeological sources has produced images of a changing Salento that differs in many respects from those of the past. The period discussed here (the 3rd and 2nd centuries BC) was actually the first stage of a Romanization process that turned a partly urbanized Salento, inhabited by the fundamentally tribal entities of *Calabri-Sallentini* or Messapii, into a definitely urbanized part of the Roman state. This process was slow and was certainly not completed before the birth of the Empire under the reign of Augustus.

The analyses of material culture alone do not help us much in establishing how various groups and individuals became Romans. In this respect there was little difference between Romans, southern Italian Greeks and non-Greek groups in Salento. Like Romans, Latins and Campanians, many

south Italians and especially the elites of this area 'were interested in participating in the cultural koinè' of the Mediterranean of Hellenistic times (Curti et al. 1996, 182). It is in particular the juxtaposition of the ancient written sources (ancient authors, inscriptions) and the archaeological evidence (artifacts, settlement patterns etc.) that helps us to understand how the initial stages of Romanization were experienced and perceived by the people who actually took part in the process. The evidence primarily concerns the elite, but we can also make an educated guess about how the first stage of 'becoming Roman' felt for families that did not stem from the former tribal elites. Each group and each individual made its choices and devised strategies that oscillated between resistance (widespread, it seems, among the former tribal farmers), acceptance (by many others) and active involvement in Roman political schemes (e.g. Rammius/Rennius of Brindisi). The result was that every member of the Salento societies who was a contemporary of Ennius of *Rudiae* - be it farmer or prince, craftsmen or slave - was forced to make choices, change attitudes and adapt to new stimuli from both inside and outside the local societies of Salento. Over the course of time, the inhabitants of Salento began to speak Latin and to live under Roman laws, while settlements like *Brundisium*, *Lupiae* and *Canusium* were transformed into Roman towns. The tribal past was not easily buried, however. As late as the 2nd century AD, the emperor Marcus Aurelius proclaimed - and was obviously proud to do so - that Messapian King Malennius, the mythical founder of *Lupiae* (Lecce), was one of his forebears.

NOTES

1 I wish to thank my collegues and friends of both Lecce University and the Superintendency at Taranto (Giuseppe Andreassi, Assunta Cocciaro, Francesco D'Andria, Liliana Giardino, Mario Lombardo, Graziella Maruggi and Grazia Semeraro) for giving help and advice and confronting me with their views and ideas on the subject of this paper. The drawings were made by Bert Brouwenstijn (Archaeological Institute Free University), the English of the text was corrected by Annette Visser Translations, Wellington (NZ).

2 This name was used by Greeks (e.g. Herodotus 7.170). It is uncertain whether they saw themselves as a political unit and used the same name themselves. For the sake of convenience, the term 'Messapians' will be used here to denote the native group or groups inhabiting the Salento peninsula.

3 For Iron-Age contacts with Albania and the Corinthian Gulf, see inter alia D'Andria 1985 and 1995; for imported Greek pottery of archaic times, see Semeraro 1997; for 6th-century Daunian wares in Salento, see D'Andria 1983 and Yntema 2001; for contacts with Campania, Epirus, Macedonia in the 4th/early 3rd centuries, see D'Andria 1988. The direct or indirect contact with 5th/early 4th century Metapontum are indicated by a substantial body of Metapontine wares (Metapontine banded and black-figured, Lucanian red-figured wares) on Salento sites (e.g. Yntema 2001, chapters C, H and I).

4 Cf. Florus, *Epitome* 1.15: *Sallentini Picentibus additi caputque regionis Brundisium inclito portu M. Atilio duce; Titi Livi libri XV periocha: Umbri et Sallentini victi in deditionem accepti sunt*.

5 The geographer Strabo (*Geography* 6.3.1) is fairly clear in his definitions of the local groups. He states that the district of Iapygia bordered on the Metaponto area; the Greeks called this district 'Messapia'. But the local population living around Cape Iapygia (now Cape Leuca) were the '*Sallentinoi*', and the other group the '*Kalabroi*'.

6 It was not until Byzantine times that the name 'Calabria' was applied to the western peninsula of southern Italy.

7 Cf. the substantial differences between the Gallic tribes reported in Caesar's *De Bello Gallico* and those found in the same area in the 1st century AD.

8 The Iapygians were usually called the '*Apuli*' in early Roman times.

9 For Brindisi in the Bronze Age, see Cinquepalmi/Radina 1998, 167-208 (site of Punta Le Terrare). In the Iron Age Brindisi may have held a comparable position to that of Otranto. As a dispersed settlement that was both a port of call and a trading port in the early Iron Age (8th to 6th century BC), it may have developed into a more or less nucleated, walled centre in the 5th to 4th centuries BC. There is no overview which systematically collects and interprets the pre-Roman and Roman finds from the Brindisi town area. For basic information on the finds, see Quilici/Quilici Gigli 1975, 65-76.

10 Cf. Lombardo 1992, text nos 188, 205, 400, 429, 444, 458, 460, 476.

11 The inscriptions in the Grotta della Poesia date from archaic times (6th-5th century BC) to the 1st century BC. For short preliminary reports, see Pagliara 1987 and 1989.

12 The Romans were followed by the Goths, Lombards, Arabs, Byzantines, the Staufians from Germany, the French Angiovins and the Spanish Habsburg/Bourbon monarchy. After the *Risorgimento* in Italy in 1870, many southern Italians felt dominated by Rome and northern Italy.

13 On the ancient roads of Salento, see also B. Fedele, Gli insediamenti preclassici lungo la Via Appia antica in Puglia, *ArchStorPugl* 19 (1966), 29-43; Uggeri 1975; M.D. Miroslav Marin, La viabilità antica tra Taranto e Brindisi. La Via Appia, *ArchStorPugl* 39 (1986) 27-68; M. Lombardo, La via istmica Taranto-Brindisi in età arcaica e classica: problemi storici, in *Salento Porta d'Italia. Convegno internazionale Lecce 1986*, Galatina 1989, 167-192.

14 Varro, *De Re Rustica* 2.6.5: *Greges fiunt fere mercatorum, ut eorum qui e Brundisino aut Apulia asellis dossuariis comportant ad mare oleum, vinum itemque frumentum aut quid aliquid*.

15 The quote is from the Messapian-Roman poet Ennius (translation: Warmington, *Annales*, apud Gellius, *Noctes Atticae* 7.6.2: *Brundisium ... pulcro praecinctum praepete portu*; see Lombardo 1992, text 63). He must have known the town well since he came from *Rudiae* (45 km south of Brindisi) and his sister had married someone from Brindisi (see section 3.4 below).

16 Cf. Lombardo 1992, 39 (comment on text 66) and 91 (comment on text 165); for passages on Brindisi's role

in peaceful shipping, see Lombardo 1992, 53 (comment on text 88).

17 If we follow Livy, the Messapian settlements of *Manduria* and possibly *Uzentum* or *Uxentum* (Ugento in southern Salento) were among these *ignobiles urbes*. Ugento may have defected to Hannibal after the battle of *Cannae* (Livy 22.61,11-12), but the text is fairly corrupted (see Ph. Désy, Su alcuni problemi relativi al conflitto tra Annibale e Roma, in *L'età annibalica e la Puglia, Atti del II Convegno di Studi sulla Puglia romana, Mesagne 24-26 marzo 1988*, Mesagne 1988, 207-208); *Manduria* (some 30 km southeast of Taranto) was retaken by the Roman consul Quintus Fabius in 209 BC (Livy 27.15.4).

18 Cornfields can be burned, but vineyards and especially olive groves are difficult to destroy. Thus the damage may have been limited to burnt farmsteads and the loss of two or three years of production; cf. Patterson 1987.

19 For Salento wines, see A. Tchernia, *Le vin de l'Italie romaine*, Rome 1986.

20 Livy 29.28.9: *Magnus motus servilis eo anno in Apulia fuit. Tarentum provinciam L. Postumius praetor habebat. Is de pastorum coniuratione, qui vias latrociniis pascuaque publica infesta habuerant, quaestionem severe exercuit* (Lombardo 1992, text 161).
Livy 29.41.6: *Et L. Postumius praetor, qui Tarentum provicia evenerat, magnas pastorum coniurationes vindicavit, et reliquias Bacchanalium quaestionis cum cura exsecutus est* (Lombardo 1992, text 162).

21 The wording of both passages is so suspiciously similar that it is tempting to believe that Livy was recounting the same events twice.

22 Livy 40.19.9: *L. Duronio praetori, cui provincia Apulia evenerat, adiecta de Bacchanalibus quaestio est, cuius residua quaedam velut semina ex prioribus malis iam priore anno apparuerunt ... Id persecare novum praetorem, ne serperet iterum latius, patres iusserunt* (cf. Lombardo 1992, text 164).

23 In the Roman context, the term '*Apulia*' is almost invariably used for central and northern Apulia (approximately the present-day Italian provinces of Foggia and Bari), while *Calabria* is used for the present-day Salento peninsula (the modern Italian provinces of Taranto, Brindisi and Lecce). Livy seems to have been quite consistent in the correct geographical use of these terms.

24 For an unusual case in which a *gens* with recognizably Messapian origins (*gens Tutoria*) appears to own a series of Roman villas in the area north of Lecce as late as the 2nd century AD, see Susini 1962, inscription no 129; Marangio 1975, 129; Pagliara 1980, 211 ff. The name of the same *gens* may survive in the name of the village of Tuturano ([*fundus*] *Tutorianus*), just south of Brindisi.

25 Cf. the 'treason' of Dasius Altinius from the north-Apulian settlement of *Arpi* during the Hannibalic war (Livy 24.45) or the assistance given to the Roman survivors of the *Cannae* slaughter of 216 BC by Busa, *mulier apula* from the central-Apulian settlement of *Canusium* (Livy 22.52.7).

26 Gellius, *Noctes Atticae* 17.17.1: ... *tria corda sese habere dicebat, quod loqui Graece et Osce et Latine sciret* ... Oscan was, of course, the lingua franca in large parts of Italy during the 2nd century BC. But if Gellius meant to suggest that Oscan was Ennius' native language, he was mistaken. While variants of Oscan - closely related to Latin - were spoken in large parts of central and southern Italy (e.g. the Umbro-Sabellic districts, Lucania and Bruttium), the pre-Roman, native language of the present-day region of Apulia (Salento included) was Messapic, which belongs to the Illyrian branch of the Indo-European languages (De Simone 1964). Either Gellius made a mistake or Ennius knew both Messapic and Oscan, the latter being the lingua franca in large parts of central and southern Italy.

27 Silius Italicus, *Punica* 12.393: *antiqua Messapi ab origine regis*.

28 Livy 42.17.2: *Princeps Brundisii Rammius fuit; hospitioque et duces Romanos omnes et legatos, exterrarum quoque gentium insignes, praecipue regios, accipiebat*.

29 For Gaius Rennius Brundisinus, son of Dazoupos, see *Griechische Dial. Inschrifte* II.1, 1339.

30 It should be noted that Marcus Aurelius believed that the Messapian king Malemnius or Malennius (again an -ennius name), founder of the town Lecce (ancient *Lupiae*) and son of Dasummius (again a Daz-name), was one of his ancestors. Cf. Sirago 1993, 241-242 (notes 35 and 36): (Marcus Aurelius) ...*probatur sanguinem trahere ... a rege Malennio, Dasummi filio, qui Lupias* (Lecce) *condidit*. Daz-names also appear on the opposite shore of the Adriatic and seem to be characteristic of the languages of the Illyrian group. For such Daz- names, see especially O. Parangeli, *Studi Messapici*, Milan 1960, 293-300. Since one of these Daz- names (Dasus) appears in a stamp of a potter/slave on the Brindisi amphorae of the later 2nd and 1st centuries BC (Désy 1989), we may well have some doubts about the elite connotation of that name. 'Dasus' is more likely to be the Messapian/Illyrian equivalent of the English name 'John' and may well have denoted both Messapian noblemen and commoners.

31 For probably elite-owned farmsteads in Salento, see Yntema 1993a, 190-191.

32 The Greeks used the terms *Rhomaioi* and *Italioi* fairly indiscriminately (Zaleskij 1982).

33 These were C. and M. Fabius Hadrianus; the former was a *praetor* in Africa in the 80s BC, the latter a *legatus* during Lucullus' campaigns in Asia between 72 and 68 BC.

34 *Magna Grecia in età romana, Atti del XV Convegno di Studi sulla Magna Grecia, Taranto 1975*, Naples 1976.

35 Important milestones were the excavation of a Roman necropolis at Brindisi and Otranto (Andreassi/Cocchiaro 1988: necropoli dei Cappuccini; *Excavations at Otranto*, vols. I and II (eds. F. D'Andria and D. Whitehouse), Galatina 1992, Congedo Editore), the excavation of the kiln sites Apani and Giancola north of Brindisi (Manacorda 1988 and 1989: Palazzo 1988, 1989, 2001), the publication of several Roman features in the towns of Taranto (e.g. Lippolis 1981 and 1984), the research on Roman Canosa (e.g. Cassano 1992), and Venosa (e.g. Salvatore 1984), the publication of the Roman *mutatio* of Valesio (Boersma et al. 1995), research into the urban archaeology of Lecce (D'Andria et al. 1999, and the exhibition catalogue *Lecce. Frammenti di storia urbana. Tesori archeologici sotto la Banca d'Italia*, Bari 2000, Edipuglia).

36 For a first report see Burgers et al. 2004. For Cato's descriptions of such farmsteads, see Cato, *De Agricultura* 11.1.

37 There was a remarkable shift in burial practices in the former native districts of Salento sometime around the mid-2nd century BC. The standard Messapian burial of the earlier to mid-3rd century BC was an inhumation with a large quantity of pottery in a tomb consisting mostly of limestone slabs. While there is little evidence for late 3rd- early 2nd-century graves in Salento, cremations in completely new cemeteries were practised from about 150 BC onward. A special study on this subject has

been dedicated to Lecce (ancient *Lupiae*): see Giardino 1994.

38 For Graeco-Italic amphorae, see inter alia Lyding Will 1982 and Vandermersch 1994; the Graeco-Italic amphorae were probably produced in many settlements in the coastal areas of southern Italy and Sicily. There is no overall study of this type of amphora in which the various fabrics are identified.

39 At the site of *masseria* Ramanno near present-day San Cataldo (Lecce) close to the Adriatic Sea (see Valchera/Zampolini Faustini 1997, 152-154: amphora stamps with the names DEMETRI, STABUA/STABUAS, LYKAON, DIOCLEI, LIBO; these same names are all found at the site of Giancola north of Brindisi, i.e. some 50 km north of San Cataldo-Ramanno); a second relatively small amphora production site was traced at Felline in the southern tip of Salento (see Pagliara 1968 and Désy 1989: amphora stamps with the names ARISTIDES, EROS PVLLI and FELIX PVLLI; not encountered elsewhere).

40 For pre-Roman hamlets in northern Salento, see Yntema 1993a, sites 6.1 (Santa Cecilia) and 7.35 (Campo Adriano) and Burgers 1998, 161-169 (Cellino San Marco, *masseria* Mea).

41 These walls mostly date to the late 4th or early 3rd century BC; their reconstructed height is 5 to 6 m, while their width is approximately 5 m.

42 Another, fairly short-lived settlement of this early walled type is Cavallino, a few kilometres southeast of Lecce which had a 5 m-thick wall circuit of more than 3 km length. The walls were contructed in the late 6th or early 5th centuries; the settlement came to an end or was severely restricted in the course of the 5th century BC (cf. F. D'Andria, Cavallino (Lecce): ceramica ed elementi architettonici arcaici, *MEFRA* 89 (1977) 525-562, D'Andria 1988, and O. Pancrazzi, *Cavallino*, Congedo Editore, Galatina 1979).

43 The evidence comes from the 'urban' surveys of the walled sites of Valesio (Yntema 1993b), Muro Tenente, Muro Maurizio and San Pancrazio Salentino (Burgers 1998) and from the excavations at Muro Tenente (e.g. Burgers/Yntema 1999).

44 For the Canosa temple of the 2nd century BC (underneath the late Roman basilica of San Leucio), see *Principi, Imperatori, Vescovi*, 620-654 and Dally 2000).

45 Cf. Sirago 1993, 242; Eutropius 8.9: *Post hunc imperavit Marcus Antoninus Verus, haud dubie nobilissimus, quippe cum eius origo paterna a Numa Pompilio, materna a Salentino rege et cum eo Lucius Annius Verus. SHA, Vita Marci Antonini philosophi 1.6: (Marcus) cuius familia in originem recurrens a Numa probatur sanguinem trahere, ut Marius Maximus docet; item a rege Malemnio, Dasummi filio, qui Lupias condidit*.

46 The Lecce theatre contained, for instance, copies of the Augustus of Primaporta, the Athena Giustiniani, the Gabii Artemis and the Doryphorus by Polycletus; see K. Mannino, Il teatro: la decorazione della scena, in D'Andria 1999.

47 It should be noted, however, that Strabo (6.3.5) does not mention *Lupiae* as one of the 'real' towns of Salento. He may have ranked it among the *polismata* of Salento.

48 For a Messapian sanctuary that continued to function until well into the Roman Imperial period, see D'Andria et al. 1978 (Grotta Porcinara near Santa Maria di Leuca).

49 The datings were based on the (style-based) chronologies of Apulian red-figured pottery and especially Gnathia wares. These were believed to have been produced until about the end of the 4th century and ca 270 BC respectively (cf. Trendall/Cambitoglou 1982 and Green 1968 and 1976). Gnathia wares can now be shown to have been produced until the final quarter of the 3rd century. On this subject, see Yntema 1990, Lippolis 1994, and Gräpler 1997, 58-60.

50 It should be noted in this context that rural burial grounds of the Roman-Imperial age are almost exclusively known by their inscriptions (exceptions: Brindisi and Lecce; cf. Andreassi/Cocchiaro 1988 and Giardino 1994). Almost nothing is known of the burials themselves. The inscriptions stem from both urban contexts and Roman villa sites.

51 Since these three tombs are basically unpublished, only a superficial analysis can be offered here. The two Oria tombs were found in 1973 in the northwestern outskirts of Oria (Ciriaco-Maddalena area) and were believed to have contained two depositions each (one deposition from the first half of the 3rd century BC and one from the mid-2nd century BC; cf. Lo Porto 1974, 343-344, pl. LVI). The latter observation appears to be due to the incorrect dating of some of the objects found in these burials. The 1988 tomb from Mesagne is exhibited in the Mesagne museum (now in the local castle); a short report on this burial is published by A. Cocchiaro (1988a); a booklet produced for the local market offers more detailed information (Cocchiaro 1988b). The spectacular Mesagne tomb discovered slightly south of the Mesagne *Castello* in 1999 is still unpublished (personal communication by Assunta Cocchiaro).

52 Tomb 1 (1973) from Oria contained a Rhodian wine amphora; tomb 3 (1973) contained 4 amphorae including Cnidian or Cretan amphorae.

53 For earlier specimens, see inter alia F.G. Lo Porto, Due tombe scoperte a Cavallino, *Studi di Antichità* 7 (1994) 47-84).

54 For elite graves (*hypogaea*) with amphorae and/or glass vessels from Canosa, see Ciancio 1980 and *Ori di Taranto*, 446-452; Stern/Schlick-Nolte 1994, 97-115; for similar tombs from Ascoli Satriano, see Tinè Bertocchi 1985 and Volpe 1987 and Mazzei 1991; for scant remains of a tomb with glass vessel from Salapia, see Mazzei 1991; for elite burials with amphorae from the site of *Arpi*, see Mazzei 1995 and Mazzei et al. 1996. For tombs with very similar characteristics from Ancona in the Marche area, see Mercando 1976 and Colivicchi 2002; these contain objects made of precious metals, fayence, Micro-Asiatic white-slipped wares, relief decorated 'Megarian' bowls from Greece and oil and wine amphorae (e.g. from Brindisi, Cnidos and Rhodos).

55 It should, however, be noted that the Canosan funerary culture retained highly traditional features up until the 2nd century BC (cf. D.G. Yntema, The Listata Wares from Canosa, *OudhMeded* 77 (1997) 121-134).

56 The only exception reported hitherto is a rural necropolis probably belonging to a hamlet or larger farmstead dating to the later 3rd and perhaps the early 2nd century BC at the site of San Lorenzo near the present-day town of Francavilla Fontana (cf. Marinazzo 1980).

57 As for the Vehilii, it should be noted that a Vehilius was buried in Lecce as early as the first half to mid-2nd century BC in a traditional Messapian cist grave (cf. Susini 1962, 105; inscription in Latin letters). Thus there may be reason to doubt the central-Italian origin of the *gens Vehilia*. The *gentilicium* of the Anninii is paralleled by similar-sounding *gentilicia* of families that definitely

had roots in Salento (the Ennii, Rennii, Pulfennii from Brindisi, the Annii from Canosa, etc.).

58 Manacorda's view that the owners of the workshops also owned large villas (Manacorda 1988, 1990) has been convincingly refuted by Désy (1989).

59 The interpretations proposed by Manacorda and Palazzo for the amphora production of Brindisi and surrounding area have been strongly influenced by images constructed for the organization of the production of Sestius amphorae of the Cosa area (see, e.g. Manacorda 1981, 1988, recently Cambi 2000). The stamps indicate that the workshops were relatively small and suggest that Brindisi kilns were often shared by a group of workshops; they were probably not the prerogative of a single, large amphora production unit (Désy 1989).

60 For Hellenistic Greek amphorae in southern Italy, see *Cento Anni*, 60-80 (La collezione Viola); Volpe 1986; Lippolis 1997, 23-28.

61 Amphorae of the Punic type are widely diffused in southern Italy and stem from contexts covering a fairly long period. Therefore they cannot be empty containers left behind by Hannibal's troops. A series of specimens from Basilicata has been collected by G. Greco (*Rivista di Studi Liguri* 45 (1979) 13-17). Clay analyses of the specimens from two Salento sites (Valesio contacts of the early 2nd century; Muro Tenente, 2nd to 3rd quarter of the 3rd century context) suggest a Sicilian origin for these amphorae *de tradition punique*.

62 For Campana A wares from Salento, see D'Andria et al. 1978, 123-126 (from S. Maria di Leuca) and Yntema 2001, 329-331 (from Valesio).

63 For distribution of Gnathia in general, see Green 1977; for Sidi Khrebish/Benghazi, see Kenrick 1985; for Dalmatia, see, for instance, Kirigin/Marin 1988; Gnathia wares are obviously rare in Athens (Rotroff 1997) and in south-Albanian Bouthroton (only four pieces in the large Hellenistic sample that I analyzed in July 2000).

64 See Kenrick 1985, 37-43 (items B33-B50).

65 Such studies have been conducted within the context of the Valesio excavations (Yntema 2001) and are now placed in an interregional perspective (B.M.J. Mater, *Patterns in Pottery. A comparative study of pottery production in Salento, Sibaritide and Agro Pontino in the context of urbanization and colonization in the first millennium BC*, PhD Amsterdam Free University, 2005).

66 For imported 'eastern' fine wares of the late 3rd and earlier 2nd centuries BC, see Yntema 1995c. For 'eastern' shapes in regionally produced fine wares, see Yntema 1990 (HFR Group) and Yntema 2005. In addition to the *mastos* and *lagynos*, there are amphorae of West Slope shape and calotte-shaped bowls in Apulian Black Gloss wares.

67 Large-scale settlement excavations have been carried out at the 'Messapian' *oppida* of Vaste, Muro Leccese, Valesio and Muro Tenente. For Vaste, see *Archeologia dei Messapi*, 48-189, D'Andria 1996, 427-438; for Muro Leccese, see Lamboley 1999; for Valesio, see, e.g. Boersma/Yntema 1987; Boersma/Yntema 1989; Yntema 2001.

68 These settlements are Taranto, Monte Salete, Vicentino, Oria, Muro Tenente, Mesagne, Muro Maurizio, San Pancrazio, Valesio, Brindisi (*fig. 1*).

69 The settlement system of southern Salento in Roman times is not yet clear. Lecce (*Lupiae*), with its theatre and amphitheatre, was evidently the main regional centre. Both Otranto (*Hydruntum*) and Gallipoli (*Callipolis* or *Anxa*) must have been ports and were probably Roman towns of secondary importance.

70 See, for instance Pausanias 10.10.6-8 (Lombardo 1992, text 279) on a Tarantine *anathema* at Delphi, and a passage by Aristoxenos cited in Iamblychus' *Life of Pythagoras*, 31.197 (Lombardo 1992, text 51).

71 Brindisi even started to mint coins according to the Roman standard in this particular period (cf. Boersma/Prins 1994); the mint at Oria was operational in the 2nd century BC (Travaglini 1990).

72 The second and third Macedonian War (200-197 and 171-168) and wars against the Aetolians and the Achaean League (respectively 192-189 and 149-146).

73 Livy (39.29.8) states that some 7,000 men were condemned because of the revolt.

74 The population decline in these settlements may have been somewhat less disastrous than the reduced size of the settlement areas suggests. We should comment that the greater social differences in many of the Salento settlements may have meant that part of the population ceased using the highly diagnostic fine wares, thus becoming virtually invisible. But the severe reduction in the size of settlement areas is probably real. There is a highly diagnostic set of coarse wares in Salento, dating to the close of the 3rd and the first half of the 2nd century BC (Yntema 2001); fragments of these coarse wares were also found in a small, mostly central area of the formerly much larger settlements. This does not rule out the fact that the 'new poor' of the 2nd century BC may have lived closer together and that a 75-80% reduction in the settlement area was not linked to a comparable percentage decrease in population.

75 Perhaps a few smaller Salento towns of the Roman period should be added to this list: the coastal towns of Otranto and *Callipolis/Anxa* and the former Messapian tribal centres of Oria (Brindisi area) and Ugento (southern Salento). Mesagne (Brindisi area) is likely to have been yet another modest town-like settlement of the Roman period.

76 At a relatively early stage in Salento history, tribal chieftains appear to have displayed symbols of Greek *paideia* in their graves (e.g. A. Rouveret, Les oiseaux d'Ugento, in *Mélanges offerts à Jaques Heurgon*, Rome 1976, 927-945: 5th/early 4th-century tomb from Ugento). Ennius' adaptations of Greek tragedies display a perfect knowledge of both Greek and Latin and are, like other of Ennius' literary works that were highly dependent on Greek examples, indicative of a widely perceived dominance of Greek cultural models in peninsular Italy.

77 An inscription with a decree of the sanctuary and people, dated between 241 and 232, honored Bouzos, son of Orteiros, from Canosa with a proxeny calling him an *euergetes* (*IG* XI.4, 642); Livy (22.54) also mentions the rich Busa, *mulier apula* from Canosa, giving generous help to the Roman survivors of the battle of *Cannae*.

78 Cf. Polybius 2.11.7 (Lombardo 1992, text 66).

79 Silius Italicus' *Punica* (12.393-395) is the only (and not very reliable) source for Messapians participating in the battle of *Cannae*.

80 New vineyards and olive groves had to be planted (it takes 20 years for an olive tree to bear fruit), and storage facilities had to be expanded. The farms had to be enlarged considerably in order to process and store the products that were no longer consumed in the nearby, former urban settlement. Olive presses, wine presses and millstones found during the Oria survey at both 3rd-and 2nd-century BC sites indicate that olive oil, grapes and corn were processed at the farmstead (Yntema 1993a).

[81] Thus the harsh measures taken by the Roman (*pro*)*praetores* of the Taranto/Apulia area greatly benefited the regional landowning elites (see section 3.3: Uprisings/resistance).

[82] Spindle whorls and loom weights are extremely common in the settlement contexts of Salento of the 4th and 3rd centuries BC. In a few cases the latter even occur in substantial clusters of 40 to 80 specimens, suggesting the presence of a loom or other type of weaving implement in that room.

[83] Ennius became a Roman citizen in 184 BC and was probably granted a piece of land in the *colonia* of *Potentia* in Picenum, just south of Ancona.

[84] Cf. Cicero, *Brutus* 20.79 and Livy 39.44.10.

[85] The same may hold for Lecce (*Lupiae*) in southern Salento.

[86] Pliny (*NH* 33.45.130), for instance, tells us that Brindisi mirrors made of bronze and tin were the best available until a certain Pasiteles started to make silver mirrors in the time of Pompeius Magnus (Lombardo 1992, text 238).

[87] In the isthmus area between Brindisi and Taranto, for instance, there are seven or eight 'native' sites which probably all survived into the 2nd century BC (Burgers 1998), while only three toponyms are known from the ancient written sources. Greek *Hyrie* (Roman *Uria Calabra*) can be identified with the important site of Oria, but the identification of the settlements of *Mesochorum* (often believed to be the site of Masseria Vicentino) and *Scamnum* (often identified with the site of Muro Tenente) is doubtful.

[88] On Roman stereotypes for conquered tribal societies (Romans as bringers of peace, prosperity and culture), see inter alia Dench 1995 and the introductory part of section 3 above.

BIBLIOGRAPHY

Andreassi, G./A. Cocchiaro 1988, *La necropoli di Via Cappuccini a Brindisi*, Fasano.

Belotti, B. 1997, Un example de prospection systématique au sol: histoire de la ville de Vaste et de son territoire, in F. D'Andria (ed.) *Metodologie di catalogazione dei beni archeologici. Beni archeologici - Conoscenza e tecnologie, Quaderno* I. 1, Lecce/Bari, 135-166.

Boersma, J.S./J. Prins, 1994, Valesio and the mint of Brindisi, *Studi di Antichità Lecce 7*, 303-325.

Bradley, G. 2002, The Romanization of Italy in the 2nd c. BC, *JRA* 15, 401-406.

Brunt, P.A. 1971, *Italian Manpower, 225 B.C.-A.D. 14*, Oxford.

Burgers, G.-J. 1998, *Constructing Messapian Landscapes. Settlement Dynamics, Social Organization and Culture Contact*, Amsterdam.

Burgers, G.-J. 2001, L'archeologia e l'Italia meridionale post-annibalica: una prospettiva regionale e diacronica, in E. Lo Cascio/A. Storchi Marino (eds.), *Modalità insediative e strutture agrarie nell'Italia meridionale in età romana*, Bari, 249-266.

Burgers, G.-J./D.G. Yntema, 1999, The Settlement of Muro Tenente, Southern Italy. Third Interim Report, *BABesch* 74, 111-132.

Burgers, G.-J./P.A.J. Attema/M. van Leusen 2004, Walking the *Murge*: interim report of the Ostuni Field Survey (Apulia, southern Italy), *Studi di Antichità Lecce* 11, 257-282.

Calderone, S. 1975, La conquista della Magna Grecia, in *La Magna Grecia nell'età romana, Atti del XV Convegno Int. di Studi sulla Magna Grecia, Taranto 1975*, Napels 1976, 33-81.

Cambi, F. 2001, Calabria romana. Paesaggi tardo-repubblicani nel territorio brindisino, in E. Lo Cascio/A. Storchi Marino eds., *Modalità insediative e strutture agrarie nell'Italia meridionale in età romana*, Bari, 363-390.

Carito, G. 1988, L'urbanistica di Brindisi in età repubblicana, in *La Puglia in età repubblicana. Atti del I Convegno di Studi sulla Puglia romana, Mesagne 1986*, Galatina, 173-179.

Cassano, R. 1992, Il tempio di Giove Toro, in *Principi, imperatori, vescovi. Duemila anni di storia a Canosa*. Exhibition catalogue Bari, S. Scolastica, Venice, 741-758.

Cassola, F. 1971, Romani e Italici in Oriente, *DialA* 4-5, 305-329.

Ciaceri, E. 1924-32, *Storia della Magna Grecia*, vols. I-III. Milan/Rome.

Ciancio, A. 1980, I vetri alessandrini rinvenuti a Canosa, in A. Riccardi/A.Ciancio/M. Chelotti (eds.), *Canosa* I, Bari.

Cinquepalmi, A/F. Radina 1998, *Documenti dell'età dell bronzo. Ricerche lungi il versante adriatico pugliese*, Fasano.

Cipriano, M.T./M.-B. Carre 1989, Production et typologie des amphores sur la côte adriatique de l'Italie, in *Amphores romaines et histoire économique, dix ans de recherche*, Rome, 67-104.

Clemente, G. 1988, Introduzione alla storia romana della Puglia romana, in *La Puglia in età repubblicana. Atti del I Convegno di Studi sulla Puglia romana, Mesagne 1986*, Galatina, 11-20.

Cocchiaro, A. 1989, *Nuovi documenti dalla necropoli meridionale di Mesagne*, Fasano.

Colivicchi, F. 2002, *La necropoli di Ancona (IV-I sec. A.C). Una comunità italica fra ellenismo e romanizzazione*, Napoli.

Curti, E./E. Dench/J.R. Patterson 1996, The Archaeology of Central and Southern Roman Italy: Recent Trends and Approaches, *JRS* 86, 170-189.

Curti, E. 2001, Toynbee's Legacy: discussing aspects of the Romanization in Italy, in S. Keay/N. Terrenato (eds.), *Italy and the West. Comparative Issues in Romanization*, Oxford, 17-27.

Dally, O. 2000, *Canosa, Località San Leucio. Untersuchungen zu Akkulturationsprozessen vom 6. bis zum 2. Jh.v.Chr. am Beispiel eines daunischen Heiligtums*, Heidelberg.

D'Andria, F. 1978, *Leuca*, Galatina.

D'Andria, F. 1979, Puglia in età romana, in *Puglia dal Paleolitico al Tardoromano*, Milan, 273-360.

D'Andria, F. 1983, Nuovi dati sulle relazioni tra Daunia e Messapia, in *Studi in onore di Dinu Adamesteanu*, Galatina, 41-47.

D'Andria, F. 1985, Documenti del commercio arcaico tra Ionio e Adriatic, in *Atti XXIV Convegno Int. di Studi sulla Magna Grecia, Taranto 1984*, Taranto, 321-377.

D'Andria, F. 1988, Messapi e Peuceti, in *Italia, omnium terrarum alumna: le civiltà dei Veneti, Reti, Liguri, Celti, Piceni, Umbri, Latini, Campani e Iapigi*, Milan, 653-715.

D'Andria, F. 1990, Oria - Monte Papalucio, in *Archeologia dei Messapi*. Exhibition catalogue Museo Provinciale Lecce, Bari, 239-306.

D'Andria, F. 1995, Corinto e l'Occidente: La costa adriatica, in *Corinto e l'Occidente, Atti del XXXIV Convegno di Studi sulla Magna Grecia 1994*, Taranto, 457-508.

D'Andria, F. 1996, La casa in Messapia, in F. D'Andria/K. Mannino (eds.), *Ricerche sulla casa in Magna Grecia e Sicilia, Atti Colloquio Lecce 1992*, Galatina, 403-438.

D'Andria F. (ed. 1999), *Lecce romana e il suo teatro*, Galatina.

De Neeve, P.W. 1984, *Peasants in Peril. Location and Economy in Italy in the Second Century BC*, Amsterdam.

De Simone, C. 1964, Die messapischen Inschriften und ihre Chronologie, in H. Krahe, *Die Sprache der Illyrier* II, Wiesbaden, 1-157.

Désy, Ph. 1989, *Les timbres amphoriques de l'Apulie républicaine. Documents pour une histoire économique et sociale*, Oxford.
Désy, Ph./P. De Paepe 1990, Torre San Giovanni (Ugento): les amphores commerciales hellénistiques et républicaines, *Studi di Antichità Lecce* 6, 187-234.
Donvito, A. 1988, *Egnazia dalle origini alla riscoperta archeologica*, Fasano.
Finley, M.I. 1986, *Ancient History: Evidence and Models*, New York.
Gabba, E./M. Pasquinucci 1979, *Strutture agrarie e allevamento transumante nell'Italia romana (III-I a.C.)*, Pisa.
Gabba, E. 1989, Rome and Italy in the Second Century BC, in T*he Cambridge Ancient History*, 2nd edition vol. VIII. *Rome and the Mediterranean to 133 BC*, Cambridge, 197-243.
Gabba, E./G. Benetti/F. Grelle 2001, Hannibal's Legacy. Trent'anni dopo, in E. Lo Cascio/A. Storchi Marino (eds.), *Modalità insediative e strutture agrarie nell'Italia meridionale in età romana*, Bari, 13-32.
Ghinatti, U. 1977, Magna Grecia post-annibalica, *Quaderni di Storia* 6, 99-155.
Giardino, L. 1994, Per una definizione delle trasformazioni urbanistiche di un centro antico attaverso lo studio delle necropoli: il caso di *Lupiae* (Lecce), *Studi di Antichità Lecce* 7, 137-203.
Giardino. L/P. Arthur/G.-P. Ciongoli (eds.) 2000, *Lecce. Frammenti di storia urbana. Tesori archeologici sotto la Banca d'Italia*. Exhibition catalogue Lecce 2000, Bari.
Green, J.R. 1968, Some painters of Gnathia Vases, *BICS* 15, 34-50.
Green, J.R. 1971, Gnathia Addenda, *BICS* 18, 30-38.
Green, J.R. 1976, *Gnathia Pottery in the Akademisches Kunstmuseum Bonn*, Mainz.
Green, J.R. 1979, Ears of corn and other offerings, in A. Cambitoglou (ed.), *Studies in honour of A.D. Trendall*, Sydney, 81-90.
Gruen, E.S. 1984, *The Hellenistic World and the Coming of Rome*, Berkeley.
Hafner, G. 1968, *Das Bildnis des Q. Ennius. Studien zur römischen Porträtkunst des 2. Jahrhunderts v. Chr.*, Baden-Baden.
Hall, J. 1997, *Ethnic identity in Greek antiquity*, Cambridge.
Hatzfeld, J. 1919, *Les trafiquants italiens dans l'Orient hellénique*, Paris.
Kahrstedt, U. 1960, *Die wirtschaftliche Lage Grossgriechenlands in der Kaiserzeit*, Wiesbaden.
Kirigin, B./M. Marin, Excavations at Issa, island of Vis, Jugoslavia 1980, *Studi di Antichità Lecce* 5, 129-148.
La Bua, V. 1988, Il Salento e i Messapi di fronte al conflitto tra Annibale e Roma, in *L'età annibalica e la Puglia, Atti del II Convegno di Studi sulla Puglia romana, Mesagne 1988*, Galatina, 43-69.
Lamboley, J.-L. 1999, *Muro Leccese. Sondages sur la fortification nord*, Paris/Rome.
Laporta, M.T. 1988, Note sui toponimi in -ano della 'Calabria' romana, in La *Puglia in età repubblicana. Atti del I Convegno di Studi sulla Puglia romana, Mesagne 1986*, Galatina, 233-247.
Lippolis, E. 1981, Alcune considerazioni topografiche su Taranto romana, *Taras* 1.1, 77-114.
Lippolis, E. 1983, La basilica forense di Egnazia, *AnnPerugia* 20, 281-321.
Lippolis, E. 1984, Le Thermae Pentascinenses di Taranto, *Taras* 4, 119-153.
Lippolis, E. 1994, La necropoli ellenistica: problemi di classificazione e cronologia dei materiali, in E. Lippolis (ed.), *Catalogo Museo Nazionale Archeologico di Taranto* III.1, Taranto, 239-281.
Lippolis. E. 1997, *Fra Taranto e Roma: Societa e cultura urbana in Puglia tra Annibale e l'età imperiale*, Taranto.
Lippolis, E./I. Baldini Lippolis 1997, La formazione e lo sviluppo del centro urbano di *Brundisium*: aspetti e problemi di ricerca, *Taras* 17, 305-353.
Lomas, K. 1993, *Rome and the Western Greeks*, London/New York.
Lomas, K. 1995, Urban elites and cultural definition: Romanization in southern Italy, in T.J. Cornell/K. Lomas (eds.), *Urban Society in Roman Italy*, London, 107-120.
Lomas, K. 1996, Greeks, Romans, and Others. Problems of colonialism and etnicity in southern Italy, in J. Webster/N. Cooper (eds.), *Roman Imperialism: post-colonial perspectives*, Leicester, 135-144.
Lombardo, M. 1992, *I Messapi e la Messapia nelle fonti letterarie greche e latine*, Galatina.
Lo Porto, F.G. 1974, L'attività archeologica in Puglia, in *Orfismo in Magna Grecia, Atti del XIV Convegno Int. di Studi sulla Magna Grecia, Taranto 1974*, Naples 1975, 337-350.
Lyding Will, E. 1982, Greco-Italic Amphoras, *Hesperia* 51, 338-351.
Manacorda, D. 1981, Produzione agricola, produzione ceramica e proprietari nell'Ager Cosanus nel I sec. a.C., in A. Giardina/A. Schiavone (eds.), *Società romana e produzione schiavistica* II, *Merci, mercati e scambi nel Mediterraneo*, Bari, 3-54.
Manacorda, D. 1988, Per uno studio dei centri produttori delle anfore brindisine, in *Puglia in età repubblicana. Atti del I Convegno di Studi sulla Puglia romana, Mesagne 1986*, Galatina, 91-108.
Manacorda, D. 1990, La fornace di Visellio a Brindisi. Primi risultati dello scavo, *VeteraChr* 27, 375-415.
Marangio, C. 1975a, La romanizzazione dell'Ager Brundisinus, *Ricerche e Studi Museo Provinciale Brindisi* 8, 105-133.
Marangio. C. 1975b: Ulteriore contributo al Supplemento del CIL IX, *Studi Linguistici Salentini* 7, 115-138.
Marasco, G. 1988, *Economia, commerci e politica nel Mediterraneo fra il III e il II secolo a.C.*, Florence.
Marinazzo, A. 1980, *La necropoli messapica di S. Lorenzo (Francavilla Fontana)*, Fasano di Puglia.
Mazzei, M. 1991, La 'tomba delle coppe di vetro' di Ascoli Satriano. Nuovi elementi per lo studio della società e del commerico della Daunia del II sec. a.C., *AnnStorAnt* 13, 189-208.
Mazzei, M. 1995, *Arpi, l'ipogeo della Medusa e la necropoli*, Bari.
Mazzei, M. et al. 1996, *Il caso di Arpi. Ambiente italico e magnogreco tra primo e medio ellenismo, Atti Tavola Rotonda, Foggia 1996*, Foggia 1997.
Mertens, J. 1979, Rapport sommaire sur les travaux des campagnes de 1975, 1976, et 1977, in J. Mertens (ed.), *Ordona* VI, Bruxelles/Rome, 7-39.
Mertens, J. 1988, Ordona 1978-1986. Rapport sommaire sur neuf années de fouilles archéologiques, in J. Mertens (ed.), *Ordona* VIII. *Rapports et études*, Bruxelles/Rome, 7-67.
Morel, J.-P. 1978, La laine de Tarente, *Ktema* 3, 93-110.
Morel, J.-P. 1981, *La céramique campanienne: les formes*, Paris/Rome.
Ori di Taranto: Gli ori di Taranto in età ellenistica. Exhibition catalogue Brera Milan, Milan 1984.
Pagliara, C. 1968, Bolli anforari inediti di Felline, *SCO* 17, 227-231.
Pagliara, C. 1980, Note di epigrafia salentina, IV, *Studi di Antichità Lecce* 1, 225-235.
Pagliara, C. 1987, La Grotta Poesia di Roca (Melendugno, Lecce). Nota preliminare, *AnnPisa* 17, 267-328.
Pagliara, C. 1986, La costa salentina del Canale d'Otranto.

Primi risultati, in *Salento, Porto d'Italia: Salento, Porto d'Italia. Convegno Internazionale Lecce 1986*, Galatina 1989, 121-130.
Palazzo, P. 1988, Aspetti tipologici della produzione di anfore brindisine, in *Puglia in età repubblicana, Atti del I Convegno di Studi sulla Puglia romana, Mesagne 1986*, Galatina, 109-117.
Palazzo, P. 1989, Le anfore di Apani (Brindisi), in *Amphores romaines et histoire économique: dix ans de recherche*, Rome, 548-553.
Pani, M. 1988, I 'municipia' romani, in *La Puglia in età repubblicana, Atti del I Convegno di Studi sulla Puglia romana, Mesagne 1986*, Galatina, 21-45.
Patterson, J. 1987, Crisis: What Crisis? Rural Change and Urban Development in Imperial Apenine Italy, *BSR* 55, 115-146.
Quilici, L./S. Quilici Gigli 1975, *Repertorio dei beni culturali archeologici della provincia di Brindisi*, Fasano di Puglia.
Ribezzo, F./C. Santoro 1978, *Corpus Inscriptionum Messapicarum*, Bari.
Salmon, E.T. 1982, *The Making of Roman Italy*, London.
Salvatore, M. (ed.) 1984, *Venosa: un parco archeologico e un museo - come e perché*. Exhibition catalogue Venosa, Taranto.
Santoro, C. 1988, La latinizzazzione della regio II: il problema linguistico, in *La Puglia in età repubblicana. Atti del I Convegno di Studi sulla Puglia romana, Mesagne 1986*, Galatina, 127-166.
Semeraro, G. 1997, *En Nèusi. Ceramica greca e società nel Salento arcaico*, Lecce/Bari.
Silvestrini, M. 1998, Banchieri, mercanti, 'diplomatici' schiavi tra Puglia, Grecia e Oriente, in R. Cassano (ed.), *Andar per mare. Puglia e Mediterraneo tra mito e storia*. Exhibition catalogue Museo Archeologico Bari and Museo Provinciale Brindisi, Bari, 225-232.
Sirago, V.A. 1993, *Puglia romana*, Bari.
Stern, E.M./B. Schlick-Nolte 1994, *Early Glass of the Ancient world, 1600 BC - AD 50. The Ernesto Wolf Collection*, Ostfildern.
Susini, G. 1962, *Fonti per la storia greca e romana del Salento*, Bologna.
Terrenato, N. 1998, *The Romanization of Italy: global acculturation or cultural bricolage, Proceedings of the 7th annual Theoretical Roman Archaeology Conference 1997*, Nottingham, 20-28.
Tinè Bertocchi, F. 1985, *Le necropoli daunie di scoli Satriano e Arpi*, Genova.
Torelli, M. 1971, Contributo dell'archeologia alla storia sociale: l'Etruria e l'Apulia. *DialA* 4-5, 431-442.
Toynbee, A.J. 1965, *Hannibal's Legacy*, Oxford.
Travaglini, A. 1990, La monetazione di ORRA, *Studi di Antichità Lecce* 6, 235-255.
Uggeri, G. 1975, La viabilità preromana della Messapia, *Studi e Ricerche Museo Provinciale Brindisi* 8, 75-104.
Uggeri, G. 1983, *La viabilità romana del Salento*, Fasano.
Uggeri, G. 1988, Il porto di Brindisi in età repubblicana, in *La Puglia in età repubblicana. Atti del I Convegno di Studi sulla Puglia romana, Mesagne 1986*, Galatina, 47-64.
Vandermersch, Ch. 1994, *Vins et amphores de Grande Grèce et de Sicile, IVe-IIIe s. avant J.-C., Études* I, Naples.
Valchera, A./S. Zampolini Faustini 1997, Documenti per una carta archeologica della Puglia meridionale, in *Metodologie di catalogazione dei beni archeologici. Beni archeologici - Conoscenza e tecnologie, Quaderno* I.2, Lecce-Bari 1997, 103-158.
Veenman, F.A. 2002, *Reconstructing the Pasture. A reconstruction of pastoral landuse in Italy in the first millennium BC*, PhD thesis, Amsterdam, Vrije Universiteit.
Verzar Bass, M. 1983, Contributo alla storia sociale di Aquileia repubblicana, in *Les 'bourgeoisies' municipales italiennes aux IIe et Ier siècles av. J.-C.*, Paris/Naples, 205-215.
Volpe, G. 1987, Le anfore della tomba 6 di Ascoli Satriano, *Ricerche e Studi Museo Provinciale Brindisi* 13, 105-120.
Volpe, G. 1988, Primi dati sulla circolazione delle anfore repubblicane nella Puglia settentrionale, in *La Puglia in età repubblicana Atti del I Convegno di studi sulla Puglia romana, Mesagne 1986*, Galatina, 77-90.
Volpe, G. 1990, *La Daunia nell'età della Romanizzazione*, Bari.
Volpe, G. 1998, *San Giusto. La villa, le ecclesie*, Bari.
Wilson, A.J.N. 1966, *Emigration from Italy in the Republican Age*, Manchester.
Wiseman, T.P. 1971, *New Men in the Roman Senate, 139 BC-14 AD*, Oxford.
Yntema, D.G. 1982, Notes on Greek Influence on Iron Age Salento, *Studi di Antichità Lecce* 3, 83-131.
Yntema, D.G. 1990, A Specific Group of Apulian Black Gloss from the Valesio Excavations: the HFR-group and its connections, *Studi di Antichità Lecce* 6, 167-186.
Yntema, D.G.1993a, *In Search of an Ancient Countryside. The Amsterdam Free University Field Survey at Oria, Province of Brindisi, South Italy (1981-1983)*, Amsterdam.
Yntema, D.G. 1993b, The Settlement of Valesio, Southern Italy, *BABesch* 68, 49-70.
Yntema, D.G. 1995a, Romanisation in the Brindisino, Southern Italy: a Preliminary Report, *BABesch* 70, 99-123.
Yntema, D.G. 1995b, The Artefacts of the Roman Period, in Joh.S. Boersma (ed.), *Mutatio Valentia, The Late Roman Baths at Valesio, Salento*, Amsterdam, 1995, 265-293.
Yntema, D.G. 1995c, Salento and the Eastern Mediterranean in the Middle and Late Hellenistic Period: Some 'Eastern' Ceramic Evidence (Fine Wares) from Valesio, Province of Brindisi, *Studi di Antichità* 8.2, 387-404.
Yntema, D.G. 2001, *Pre-Roman Valesio. Excavations of the Amsterdam Free University at Valesio, Province of Brindisi, southern Italy*, Amsterdam.
Yntema, D.G. 2005, *Conspectus of Apulian Grey Gloss wares* (2nd enlarged and updated edition), Amsterdam.
Yntema, D.G. (in press): Material culture and plural identity in early Roman Southern Italy, in A. Derks/N. Roymans (eds.), *Ethnic Constructs in Antiquity. The Role of Power and Tradition*, Amsterdam.
Zalesskij, N.N. 1982, Les Romains à Délos, in F. Coarelli/H. Solin/D. Musti (eds.), *Delo e l'Italia, Opuscula Romana Instituti Romani Finlandiae* 2, 21-49.

INSTITUTE OF ARCHAEOLOGY
VRIJE UNIVERSITEIT AMSTERDAM
DE BOELELAAN 1105
NL-1081 HV AMSTERDAM
e-mail: dg.yntema@let.vu.nl

BABesch 81 (2006, 135-168. doi: 10.2143/BAB.81.0.2014426)

Pompeian Twins
Design and Building of the House of Philippus (VI 13, 2) and the House of M. Terentius Eudoxus (VI 13, 6)

Noor van Krimpen-Winckel

Abstract

This article presents an analysis of the building history and a reconstruction of the design of two Pompeian atrium houses with a longitudinal peristyle-garden, the House of Philippus (VI 13, 2) and the House of M. Terentius Eudoxus (VI 13, 6).[1] The results of the analyses will be used to search for new insights in the social context of these houses at the time when they were constructed and during their history of occupation and use. The social history of Pompeii and the role of the house therein is a popular and fruitful research topic of many studies that are concerned with the ancient city of Pompeii. The fact that the actual layout of a house, the design by an architect, also carries in it many 'social signs' that are not immediately visible, but can be discerned by a metrological analysis, will be demonstrated by the following study.

METHODS OF RESEARCH

As A. Maiuri[2] already argued half a century ago, when defining the methodological limits for the study of Italic and Roman houses, it is necessary when studying the built structures to make a distinction between the original parts and added or modified parts. This holds true in particular in the case of the type of research that is presented here, the reconstruction of the design of Pompeian atrium houses. This reconstruction can only be valid and reliable if it is based on the analysis of the structures that were part of the original layout of the house when it was first constructed. Any later additions or modifications within the original structure must be excluded from the metrological analysis.

The twenty atrium houses that together form the database for this research all date to the pre-Roman or Samnite period of Pompeii, which officially ended with the victory of Sulla's troops in 89 BC. However, ascribing an exact building date to the built structures has always been and still is one of the problems in the field of Pompeian research today. Regarding the 'typical limestone period' atrium houses, the popular view has shifted through the years. Scholars such as Maiuri[3] were generally in favour of dating the construction of these grand atrium houses as early as the 4th or 3rd centuries BC. Lately, however, this view has moved to a preference for dating these houses to the 3rd and, even more so, to the 2nd centuries BC.[4] It will take much more extensive excavation of the levels of Pompeii before 79 AD to come to a reliable framework that will allow us to appoint absolute dates to the construction of individual houses. Until that time, I will conform to the opinion that is most favoured by scholars working in Pompeii at the moment, and date the construction of the houses, which form the subject of my research, to the 2nd century BC.

If we set these houses against the historical background of Pompeii, which ends with the eruption of Mount Vesuvius in AD 79, we note that their history of use and occupation covers a time span of over two centuries. A long enough period for each house to have undergone several alterations, be it by additions or modifications to the original structures or by restorations and repairs, both in antiquity and in the period following the rediscovery of Pompeii. A careful analysis of the built structures can lead to the reconstruction of a relative chronology of the different building phases, and of its original layout. Following onto that the metrological analysis can be carried out, resulting in the reconstruction of the design of each house. What a metrological analysis actually enables us to do is to recognise the invisible design that lies at the base of the built structures and is no longer immediately apparent. Besides leading to a better understanding of the particular methods of design that were applied in the practice of private architecture in Pompeii, the results of the metrological analysis can also be used as keys, which, from the specific viewpoint of design, offer new information on the social meanings of

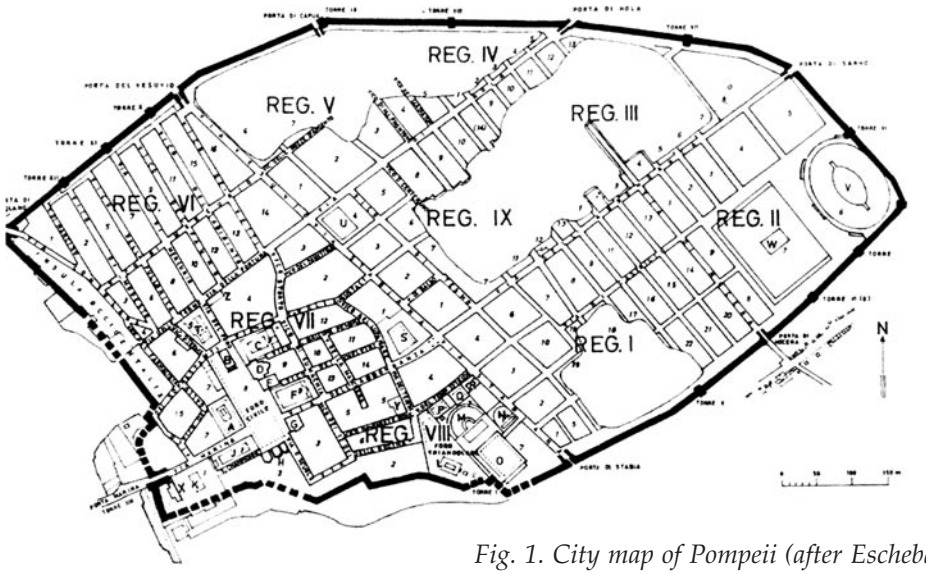


Fig. 1. City map of Pompeii (after Eschebach 1970).

the house and its relationship with the society within which it functioned.

DESCRIPTION OF THE NEIGHBOURHOOD[5]

The Houses of Philippus and of M. Terentius Eudoxus are situated next to each other in insula VI 13, one of the insulae that together form Region VI in the north-west quarter of the city, near two of the city gates, the Porta di Ercolano and the Porta di Vesuvio. The insulae in this area are roughly orientated north-south and are laid-out in two horizontal rows within a regular street grid of parallelograms (*fig. 1*). Insula VI 13 lies at the far right end of the bottom row of these insulae and is enclosed by four streets: the Vico di Mercurio to the north, the Via della Fortuna to the south, the Vico dei Vettii to the east and the Vico del Labirinto to the west. Of these last two roads, the Vico dei Vettii was the livelier one, leading to the Porta di Vesuvio, whereas the Vico del Labirinto was closed off to all traffic in AD 79. The position of VI 13 within the city plan is close to the forum and the public baths, only a few minutes walk away when leaving the Forum by the Via del Foro and then turning right into the Via della Fortuna.

In its present layout, representing the last phase of occupation in AD 79, insula VI 13 consists of a total of four larger properties and two smaller ones, all of these of the same type, the atrium house with some sort of garden-area at the back (*fig. 2*). The two largest properties, the House of Philippus (VI 13, 2) and the House of M. Terentius Eudoxus (VI 13, 6) together take up slightly more

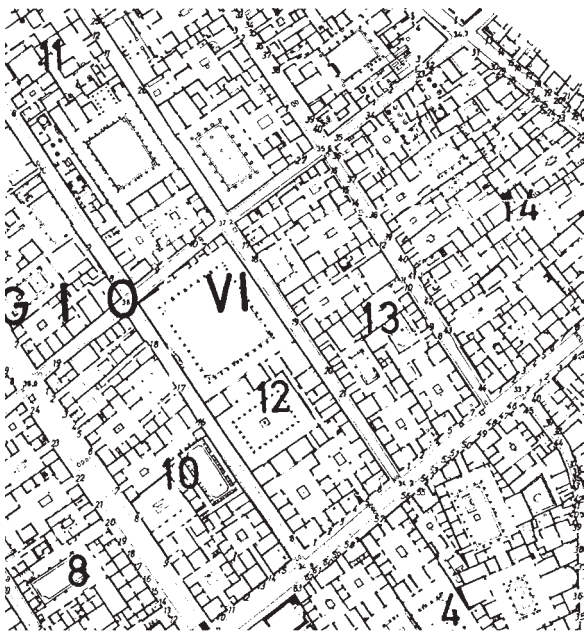


Fig. 2. Insula VI 13 and surrounding neighbourhood (after Eschebach 1970).

than the southern half of the insula and cover its entire width. They are the only two properties in the insula with a north-south orientation, the other four houses have an east-west orientation and are all but one oriented towards the Vico dei Vettii. The House of Philippus and the House of M. Terentius Eudoxus together form a remarkable element in the urban landscape of Pompeii. At first sight, the likeness in layout and dimensions of the two atrium houses is striking enough to

consider describing them as identical twins. This aspect will be further elaborated and discussed in the analysis of the design of these houses and in the subsequent understanding of the social meaning of that design.

Of the four roads that pass this insula, the Via della Fortuna on the south side is by far the busiest. After the cross-roads with the Via Vesuviana it continues towards the east as the Via di Nola, one of the main axes in the network of streets within the city. It comes as no surprise that the two largest properties within insula VI 13, the Houses of Philippus and M. Terentius Eudoxus, are constructed with their façades onto this main road, taking up the prime position within the insula. In the direct neighbourhood of these two houses, we can discern a presence of even larger city residences with their façades onto the same Via della Fortuna. Immediately to the left lies one of the largest private properties in the city, the House of the Faun, which, with its two atria and two successive peristyles, takes up the entire insula VI 12. Also, across the street from insulae VI 12 and VI 13, several large houses form a row of impressive façades along Via della Fortuna, such as VII 4, 62,[6] VII 4, 51 and VII 4, 57 (House of the Figured Capitals). The direct presence of large elite residences is not just confined to these 'neighbours' along the Via della Fortuna. Directly behind insula VI 13, some more grand elite atrium houses of the city are located, the House of the Labyrinth (VI 11, 8-10) and the House of the Vettii (VI 15, 1).

The implications of the exact location and thereby the direct social context of the House of Philippus and Terentius Eudoxus within the city plan of Pompeii on the choices that were made during the phase of design, will be further discussed below.

In the following descriptions of the layout of the Houses of Philippus and of the House of M. Terentius Eudoxus, the denomination of rooms is based on the standard Vitruvian nomenclature traditionally used for atrium houses (i.e. *fauces*, *atrium*, *tablinum*). The use of these terms to denominate certain spaces is used only as a conventional classification system. It should, as Allison (2001, 203) warns us, not be considered as the identification of the function of these rooms or the household activities that took place within them. The orientation of the spaces is referred to by the terms left, right, front and back and is always seen from the viewpoint of someone entering the room through its main entrance. The peristyle is always entered from within the house, so from the atrium.

DESCRIPTION OF THE HOUSES[7]

The first discoveries

The excavations of the two adjacent houses took place in two phases, separated by over thirty years. The first clearance of the atrium house of Philippus started in February 1837 and continued with some interruptions until August 1839. The House of Terentius Eudoxus was first uncovered in the period from May to October 1837. It was not until March 1874 that the excavation works in both houses and the peristyles were resumed. The houses were named by their excavators during that period, in both cases after a graffito found on one of the walls of the properties. Philippus was appointed owner of house VI 13, 2 by a graffito on the external wall of the shop in the southwest corner of the façade, reading: *Philippus, gaudens* (*facit*).[8] In the excavation reports, the house is sometimes also referred to as the Casa del gruppo dei vasi di vetro, after the wall decoration of the tablinum depicting a series of vases, which were interpreted as glass but probably depict silver tableware. In this article I will refer to this house as the House of Philippus, simply because it is known as such in literature and it avoids the constant use of the system of numeration (i.e. VI 13, 2).[9] House VI 13, 6 was recognised by the excavators as the residence of a certain Marcus Terentius Eudoxus, a member of a widespread and distinct family within Pompeii. His name is mentioned in the famous metrical eulogy, a graffito located on a wall in the cubiculum to the left of the peristyle:

> *Semper Terentius M. Eudoxsus unus*
> *supstenet amicos et tenet*
> *et tutat, supstenet omne modu*

'M. Terentius Eudoxus is always the only one who feeds his friends, keeps them, protects them and supports them in every way.'[10]

The situation of AD 79: layout and functions of spaces; decorations and finds

The House of Philippus: fig. 3

In the situation of AD 79, the ground plan of the atrium house of Philippus showed an almost perfectly regular layout of spaces. The impluviate atrium is flanked on both sides by two cubicula and an ala, although the left ala was at some point subdivided into a cubiculum and an apotheca.[11] The fauces were flanked on either side by a shop, both of which were open to the street and also connected to the atrium by means of a doorway,

thus belonging to the same property. The floor level of these shops was around 0.60 m lower than that of the atrium. A separate entrance (4) in the southeast corner of the façade provided access to a staircase with underneath it a toilet, probably leading to an independent apartment on the upper storey. The open tablinum was positioned centrally behind the atrium and flanked on the left side by a triclinium and on the right by an oecus and an andron, leading to the posterior part of the house. This part of the property was used for the construction of a peristyle-garden with a four-sided colonnade, consisting of a total of eight columns, four on each longer side and two on each shorter. The columns were connected by a low wall (pluteus), with space for flower pots in the top. At the back of the peristyle is a spacious exedra, with to the left of it a narrow corridor that led to the kitchen and the toilet.[12]

On the left side, the garden was flanked by a series of rooms with an upper storey, which was reached by an independent staircase from the street. The right side of the garden was also covered by an upper storey, reachable from within the peristyle itself. The garden area could be reached either from within the house or separately from the Vico del Labirinto along the west side of the insula, through entrance (21).

The decorations of the house in AD 79, which are now almost entirely lost, were all finely executed in the Third Style. The earliest decorations of the house in the First Style have been completely destroyed. However, when A. Mau studied the house, he listed remains of First Style paintings in the second room left of the atrium and the room left of VI 13, 21.[13] The Third Style decorations of the final phase of the house were mostly seen in the atrium, in the form of emblems with animals and in the tablinum, where the Third Style decorations included small paintings of silver tableware and one painting of a gold statuette of Athena. The paintings are only known from drawings in ink, executed in simple lines by G. Abbate in 1873 (ADS 407-408), and from an illustration by W. Zahn (II, 86). Within the peristyle-garden, the exedra was also decorated in the Third Style with mythological paintings, the best preserved amongst which is that from the west wall depicting Medea and the Peliades. All that remains of the painting on the east wall is a small part of a landscape, while the wall at the back displayed another landscape in a circular form. The cocciopesto pavement of this exedra, which revealed the position of the beds, is partially conserved in the northeast corner. The preservation of the Third Style, still present in almost all of the rooms of the house at the time of excavation, led Mau to the conclusion that this insula was not damaged badly by the earthquake of AD 62 and that its decorations did not, for that reason, need to be restored.[14]

During the excavations of the house, a large number of medical instruments were found throughout the atrium house and the peristyle-garden, on the ground floor as well as on the level of the upper storey.[15] The finds of this house also included a number of art artefacts, hinges, locks and a 1.40 m high candelabra.[16]

Based on the many finds of medical instruments, spread around the entire atrium-peristyle complex, on the ground floor as well as the upper storeys, H. Eschebach interprets the House of Philippus as a doctor's house and clinic.[17] He further argues that the ground plan of the house supports this idea, with its different entrances to the house, the many separate rooms on both floors of the peristyle and the fact that the house and garden-area could be used separately from one another. This interpretation had not been made by E. Presuhn,[18] who describes the spaces around the peristyle as living- and bedrooms.

The House of M. Terentius Eudoxus: fig. 3

Twin brother of its neighbour to the left, this house takes up the inferior right quarter of Insula VI 13. A remarkable aspect about these two atrium houses is the fact that their original layout and the dimensions of spaces were identical. The likeness between the two properties ends, however, at the back of the atrium house upon entering the peristyle-garden. In AD 79, the ground plan of the house was very regular in its disposition of spaces and still showed a remarkable likeness to the layout of the House of Philippus next door, as described above. The left ala of the House of Terentius Eudoxus was altered at some time, when it was partially taken up by a wooden staircase with a supportive base in stone.[19] Similar to the layout of the House of Philippus, the fauces were flanked on either side by a shop, open to the street. Originally, the atrium of the House of Terentius Eudoxus was connected to these shops by means of a doorway. At some point, however, these shops became independent of the house, when the original doors to the atrium were filled in and the walls replastered. The rooms in the area behind the atrium are arranged in exactly the same manner as in the House of Philippus, only in a mirrored disposition; a winter triclinium to the right

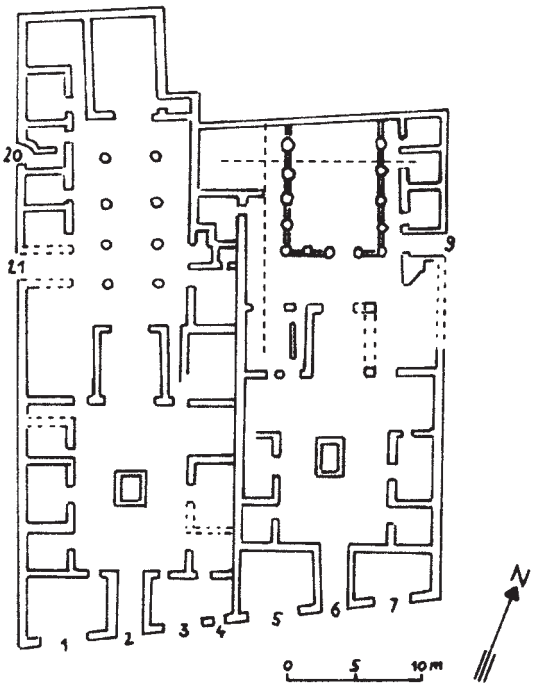


Fig. 3. Layout of the House of Philippus (2) and the House of M. Terentius Eudoxus (6) (drawing author).

of the open tablinum, and an oecus and andron, leading to the posterior part of the house, on the left side of the tablinum.

The garden-area behind the atrium house was used for the construction of a pseudoperistyle-garden with a three-sided colonnade, placed against the back wall of the property. Each side of the colonnade consists of a row of five columns, which were connected by a low wall, except for the two columns in front of the tablinum. These were placed somewhat further apart than the other columns along the front of the colonnade and the space between them was left open, in order to ensure a clear view from the atrium house into the peristyle-garden. The right side of the area was built-over with a series of four spaces with a utilitarian character: in the far corner the kitchen with a toilet, two servant's rooms and a staircase in the near corner, also open to the street and leading to an upper storey. This last area was also accessible via another staircase present with the peristyle-garden itself.[20] A side-entrance (9) from the Vico dei Vettii creates a secondary and independent route into the garden-area. The left side of the colonnade was flanked by a wide portico. In the southwest corner of the peristyle-garden, a cubiculum opened up onto this portico, in which the graffito that mentions M. Terentius Eudoxus was found. The wide portico on the left also leads to a summer triclinium in the northwest corner of the garden, which extends rather far to the back, cutting into the garden-area of the House of Philippus, interlocking the layouts of these two garden-areas. The oecus to the left of the tablinum, which forms part of the original layout of the atrium house of the House of M. Terentius Eudoxus, was opened up towards the peristyle-garden when it was added to the house, changing its focus from the front to the back.

The wall paintings of the house, which were left in situ for the larger part, were soon lost irretraceable after the first excavations, leaving them unprotected to the elements. From the notes of the excavators and the remains that are still visible today, they all seem to date to the Fourth Style, with some exceptions of the Third Style in the cubiculum and summer triclinium on the left side of the garden. The decoration of the tablinum was particularly rich, with three paintings on each of the walls. On the west wall a painting of Hercules and Omphale was flanked by paintings with couples of Venus and Adonis and another of a Satyr and a Nymph; on the east wall are preserved the central painting of Dionysos and a resting Ariadne, as well as a painting of Apollo the Lyre player with a female player of the double flute. The pavements on the contrary, all executed in signinum except for the one in the oecus left of the tablinum, which consists of a *battuto* of polychrome pieces of limestone and fragments of tiles, are datable to the First Style.[21] The original wall paintings of the house were also executed in the First Style. When he first studied the house, Mau still recognised some remains of First Style paintings in the first cubiculum left and right of the atrium and in the triclinium to the right of the tablinum.[22] Within the atrium, part of a stucco cornice, situated underneath the windows of the cubicula, is all that remains of the original First Style decoration. The degradation of the wall paintings and structures caused by the fact that they were not adequately protected, was further increased by the Second World War bombs that hit the house in 1943, inflicting most damage onto the zone of the tablinum.[23]

The House of M. Terentius Eudoxus is also known in literature as a place of industrial activity, a so-called *officina textoria*, a workshop for spinning and weaving for the production of wool. Here, in the peristyle, males and females supposedly worked under the supervision of M. Terentius Eudoxus. The names of seven of these men and eleven women have come down to us by means of a graffito written in the portico.[24]

Fig. 4. South façade of insula VI 13 from east to west (photo author).

Fig. 6. House of M. Terentius Eudoxus: atrium west wall (photo author).

Fig. 5. House of Philippus: atrium east wall with ala (photo author).

Fig. 7. House of Philippus: peristyle north west corner (photo author).

The building history of the two properties: from construction to destruction

The unity that characterizes the original layout of spaces of these two atrium houses, is also reflected in the building materials and techniques that were used for their construction. The entire south façade of the insula, the front of the House of Philippus as well as that of the House of Terentius Eudoxus, is part of one building action, portraying an homogenous picture of building materials and techniques (*fig. 4*). The left and right corners of the south façade were constructed in heavy limestone *opus quadratum*, which project to the back into the left and right perimeter walls of the insula. The remaining wall parts that make up the south façade of VI 13 all consist of heavy limestone ashlar quoining filled up with a rather large and rectangular *opus incertum* limestone. The central wall part of the façade, in between openings (3) and (5), consists largely of a younger repair in *opus vittatum mixtum* with a small opening (4) leading to a staircase to an independent apartment above. Not only the façade, but also the original building structures that form the internal build-up of both atrium houses of Philippus and Terentius Eudoxus are identical, consisting mostly of *opus incertum* of rather large and regular chunks of limestone for the walls. Within both atria, the walls in between the openings to the cubicula and alae were constructed in limestone ashlar quoining with a filling of the above mentioned *opus incertum* limestone. Within the House of Philippus, the walls have been preserved rather poorly, to say the least, and show a considerable amount of repairs using *opus incertum* lava and cruma (*fig. 5*). In contrast, the House of Terentius Eudoxus still preserves much of its original structures, with many

Fig. 8. House of M. Terentius Eudoxus: peristyle north west corner (photo author).

of its walls still in *opus incertum* limestone and heavy, solid limestone ashlar doorposts (*fig. 6*).

During the entire history of use, the original layout of spaces in both atrium houses remained practically unaltered. The only space that was sacrificed to other uses was the same one in both houses, the left ala. In the House of Philippus a wall was built dividing it into a cubiculum and a closet. In the House of Terentius Eudoxus, it was used for the construction of a staircase, leading to spaces above the atrium house.

Moving into the posterior part of the properties, the picture becomes much less homogeneous. In the case of the House of Philippus, the construction of the peristyle-garden with a four-sided colonnade as it is present in the house structure of AD 79, can definitely be assigned to a later date than the original building period of the atrium house, based on the analysis of the wall structures (*fig. 7*). The walls were constructed in an *opus incertum* of limestone and lava mixed with re-used pieces of tile (*tegula*) and flooring (*opus signinum*). The large dining hall at the back of the peristyle and the walls on the right (E) side can also be dated to the same younger phase by the use of the same type of *opus incertum* and of *opus latericium*.

The peristyle itself consists of four early facetted corner columns in tuff, to which were added in the latest period four more columns in *opus latericium*, covered in red and white plaster.[25] Contrary to this interpretation, one could also consider all the columns used in the peristyle to be contemporary, whereby the corner columns were raised in a more expensive material than the central ones. The tuff columns could also be spolia, reused here in the construction of the garden. In the situation of AD 79, all columns are connected by a pluteus in *opus incertum* limestone, lava and cruma.

The dating of this posterior part of the residence to a younger period than the construction of the atrium house can only remain relative, for lack of datable evidence prevents an absolute date for both the atrium house and the peristyle-garden.

The entire built-over property of the House of Terentius Eudoxus can also be dated to two separate phases, with the original construction of the atrium house and the later addition of the peristyle-garden (*fig. 8*). In this case, the construction of the peristyle-garden has been recognised by some as a first century BC modification.[26] Its three-sided colonnade consists of a total of thirteen columns, constructed in *opus latericium* and *opus vittatum mixtum*, all adorned with a Doric capital in tuff. The columns were decorated with a layer of plaster imitating the presence of a fluted column underneath. The materials and techniques applied along the left side are the same as those used in the atrium house. The spaces along the right side of the garden, however, can be dated to a younger building phase, by the use of *opus latericium* and *opus vittatum mixtum* for the construction of doorposts. The walls of these rooms were constructed up against the right outside wall of the garden and insula and do not form a constructional unity with that wall.

The building project: a unity of planning and construction

From the analysis of the wall structures of the House of Philippus and the House of Terentius Eudoxus, we can conclude that these two atrium houses were constructed in one building project. Can we be a little more specific about this building project? The most important structural element that could lead to more detailed information is the central perimeter wall that forms the boundary between the two houses. If we first regard the relation of the House of Philippus to this central perimeter wall, we must focus on the points where the walls on the right side of the atrium of the House of Philippus, perpendicular to the perimeter wall, connect to that wall. It is clearly visible in the built-up situation that all walls on the right side of the atrium, dividing the right side range into two cubicula and an ala, abut onto the perimeter wall. None of the side range walls are structurally connected to the perimeter wall. In the House of M. Terentius Eudoxus, on the other hand, the walls in the left side range of the atrium that are perpendicular to the central perimeter wall, all form

Fig. 9. Via della Fortuna with successive façades of VI 13 and VI 12 on the right (photo author).

a structural unity with that wall at the points where they connect. In other words, the House of M. Terentius Eudoxus is structurally connected to the central perimeter wall whereas the House of Philippus is not. This provides us with valuable information on the activities on the building site when these two houses were constructed. It appears that the order of building was, in this case, from right to left. First, the House of M. Terentius Eudoxus in the right lower corner of insula VI 13 was constructed, after which the House of Philippus was built against the already existing left perimeter wall of the House of Terentius Eudoxus, which then became the central perimeter wall between the two houses. The structural analysis of the façade of the two atrium houses, revealing the fact that the techniques and materials applied are identical, confirms that we are indeed dealing with one building project. In that case, it seems only fair to assume that the time that lapsed between the construction of these two houses is negligible, and that the construction of the House of Philippus followed immediately onto that of the House of Terentius Eudoxus.

Another issue that should be addressed here, which regards the relation between the two houses, is the idea of them having functioned as a double-atrium house, as is sometimes suggested.[27] There is, however, no evidence in the built structures to support this theory. In the situation of AD 79, the two houses were indeed connected to each other through a low and narrow passageway between the right ala of the House of Philippus and the left ala of Terentius Eudoxus. It is immediately clear that this uncomfortably small passage was a late introduction in the central perimeter wall and must have served some practical purpose rather than being an official door opening as would be expected in a double-atrium house. At the point of the passage, the central perimeter wall was roughly cut open and narrow limestone blocks were used to create the door posts of the new opening. At floor level on the side of the House of Philippus we can see that we are dealing with a late modification in the built structures. Three successive layers of plaster decoration, which are also present on the ala walls, can be seen on ground level, continuing in front of the entire opening in the wall. Clearly, when this opening was made nobody took the trouble to create a neat finish to the job and instead left the layers of plaster visible along the ground where they previously would have continued upwards as a wall decoration. Adding to that, the fact that no new consecutive layer of plaster was applied to the perimeter wall or any of the other ala walls after the creation of the opening, indicates the late date in Pompeii's history for the insertion of this passageway. We may imagine that the earthquake of AD 62 caused considerable damage to these houses, and that repair works were still in process in AD 79. This small passage may have simply served the workmen quick and easy access to both premises.

Another characteristic of these houses that speaks against the double-atrium house idea is the fact that the ground levels of the two houses differ considerably. The atrium house of the House of Philippus was constructed on a higher level than that of Terentius Eudoxus, in accordance with the local geographical situation, as the Via della Fortuna has an upward inclination towards the west.

Be it that the unity of the building project of the 'twin' houses is striking, the picture changes rather dramatically once we step from the seclusion of the houses into the open gardens at the back. Or does it? For now, stating anything different would be stretching the evidence given us by the analysis of the layout and the wall structures of the two peristyles, neither showing the coherence of the atrium houses. However, entering into the next level of this research, the metrological analysis, we may still learn that what we see is not all there is to know.

RECONSTRUCTION OF DESIGN: THE METROLOGICAL ANALYSIS

The metrological analysis is the method of research whereby the analysis of the principal measures of a building leads to an understanding of the underlying system of design of that building. Regarding

antique architecture, the metrological analysis can only take place after conversion of the measures taken by archaeologists in the field (in metres and centimetres) into the ancient standard measure that was used in Pompeii at the time of construction of the studied objects. In the case of the Houses of Philippus and Terentius Eudoxus,[28] constructed in the 2nd century BC, the standard measure used was the Oscan foot. At the end of the 19th century, H. Nissen proposed that the value of one Oscan foot equals 27.50 cm.[29] By setting an absolute value for the measurement of one Oscan foot, Nissen did not allow for any variability in the Oscan unit of measure. However, the fact that we do know of the existence of different standard measures for Roman feet, as eight slightly different units of measure were found in Pompeii and Herculaneum, varying in length between 29.25 to 29.70 cm, how can we assume that this variability did not exist in the Oscan foot?[30] Allowing then for a certain variability, we need to calculate the used foot measure for each individual building. A method for this calculation was first developed by K. Peterse[31] and then slightly adjusted and refined by H. Geertman.[32] The formula that was used by the author to calculate the foot measures, used in the construction of the House of Philippus and the House of M. Terentius Eudoxus is Geertman's:

$\surd (a^2 + b^2 + c^2) / \surd (x^2 + y^2 + z^2)$[33]

The conversions of the principal measurements[34] of the two houses and their peristyle-gardens are presented in tables 1-4. The measurements of the two atrium houses that are included in the metrological analysis concern structural elements that all belong to the first construction phase of each house, which has already been determined in the reconstruction of the building history of these houses by the careful analysis of the construction techniques and materials, resulting in a relative chronology as described above. It is imperative that only the structures that belong to the first phase of a building are included in the metrological analysis, as only these are relevant in the reconstruction of the original design.[35]

Before stepping into the analysis of the measures of these Pompeian atrium houses, we first need to familiarise ourselves with the building traditions and the education and practice of contemporary architects, in order to provide a temporal framework within which a structure was created and functioned, placing it and our understanding of it in its own context. Without some prior knowledge of the practical and cultural circumstances at the time when these houses were designed and constructed, the interpretation of the design is meaningless. The obvious medium that could provide this kind of historical information would be a written source. On the subject of ancient architecture in the (pre-) Roman world there is one such literary source that cannot be left un-discussed when embarking on an analytical journey leading to a reconstruction of the methods of design used by antique architects: Vitruvius' *De architectura*.

The use of a written source: Vitruvius' De architectura

The next section of this article will be dedicated to the reconstruction of the designs that lie at the base of the House of Philippus, the House of M. Terentius Eudoxus and their respective peristyle-gardens. The analysis will be presented in accordance with the description of the process of design by Vitruvius in his treatise on architecture *De architectura*. Although this work was written by an architect in Rome in the third quarter of the 1st century BC, at least a century later than the construction of the Pompeian atrium houses, Vitruvius' writings can indeed be used as a written source in the archaeological research here presented. His treatise consists of his own selections, preferences and discussions on matters of design practice and tradition that existed within his profession. *De architectura* can be regarded as a work reflecting the real state of affairs, a general image that had already existed for many generations of architects. This view is actually partly confirmed by Vitruvius himself when he writes about Greek architects dating back to the 4th century BC, as well as his own teachers and the training within this tradition.[36] It is within this long-standing architectural tradition that the atrium houses of Pompeii can also be placed. Regarding Vitruvius' relation to the reality of architecture, previous research has led to some general conclusions:[37]

1. The general statements and concrete prescriptions presented by Vitruvius are a personal selection of his perception of contemporary reality.
2. Vitruvius' prescriptions on proportional designs and relations stem from a general system that was common good for the architects of his own time and of previous generations.
3. Vitruvius' statements must be read as the symptoms of that system. They are no more or less than variants within that system, just as different building projects are variants of real architecture in building practice.
4. The antique building practice made a conscious

Table 1. Measures atrium house of Philippus (VI 13, 2). Foot measures used in conversion: 27.53 cm.

ATRIUM HOUSE (*ordinatio*)	Distance in cm		Distance in Oscan feet		Intended measures in the executed design (*dispositio*)	Intended measures in the original design
FAÇADE						
NW corner - NE corner	1618.00		58.77		58.75	60.00
NW corner - fauces	719.00		26.12		26.00	26.00
width fauces	221.00		8.03		8.00	8.00
fauces - NE corner	678.00		24.63		24.75	26.00
FAUCES						
Depth e/w	477.00	506.00	17.33	18.38	18.00	18.00
width n/s	226.00	221.00	8.21	8.03	8.00	8.00
ATRIUM						
Depth e/w	1258.00	1256.00	45.70	45.62	45.50	46.00
width n/s	867.00	867.00	31.49	31.49	31.50	32.00
backwall	1567.00		56.92		56.50	57.00
Front (S) wall						
NW corner - opening fauces	321.00		11.66		11.75	12.00
width fauces	221.00		8.03		8.00	8.00
opening fauces - NE corner	320.00		11.62		11.75	12.00
Back (N) wall						
SW corner - opening W triclinium	339.00		12.31			
opening W triclinium	136.00		4.94		19.00	19.50
left (W) post tablinum	65.00		2.36			
width tablinum	489.00		17.76		18.00	18.00
right (E) post tablinum	66.00		2.40			
opening andron	121.00		4.40		19.50	19.50
opening andron - SE corner	351.00		12.75			
Right (E) wall						
right (S) post first cubiculum	170.00		6.18			
opening first cubiculum	immeasurable					
left (N) post first cubiculum= right (S) post second cubiculum	immeasurable					
opening second cubiculum	immeasurable					
left (N) post second cubiculum	220.00		7.99			
Total length wall until opening ala	868.00		31.53		31.50	32.00
opening ala	389.00		14.13		14.00	14.00
Left (W) wall						
left (S) post first cubiculum	167.00		6.07			
opening first cubiculum	125.00		4.54			
right (N) post first cubiculum= left (S) post second cubiculum	230.00		8.35			
opening second cubiculum	123.00		4.47			
right (N) post second cubiculum=	223.00		8.10			
Total length wall until opening ala	868.00		31.53		31.50	32.00
opening ala	388.00		14.09		14.00	14.00
Cubicula right (E)						
depth n/s	347.00	351.00	12.60	12.75	12.50	12.50
Cubicula left (W)						
depth n/s	355.00	352.00	12.90	12.79	12.50	12.50
Ala right (E)						
depth n/s	351.00	351.00	12.75	12.75	12.50	12.50
width w		390.00		14.17	14.00	14.00
Ala left (W)						
depth s	351.00	346.00	12.75	12.57	12.50	12.50
width e	388.00		14.09		14.00	14.00

Table 1. contd

Impluvium						
Depth e/w	385.00	388.00	13.98	14.09	14.00	14.00
width n/s	337.00	342.00	12.24	12.42	12.50	12.00
impluvium - front (S) wall	429.00		15.58		15.75	16.00
impluvium - back (N) wall	434.00		15.76		15.75	16.00
impluvium - right (E) wall	255.00		9.26		9.25	10.00
impluvium - left (W) wall	272.00		9.88		9.75	10.00
Tablinum						
Depth	571.00		20.74		21.00	21.00
width s		489.00		17.76	18.00	18.00

Table 2. Measures peristyle-garden of Philippus (VI 13, 2). Foot measures used in conversion: 27.58 cm.

PERISTYLE-GARDEN	Distance in cm		Distance in Oscan feet		Intended measures in the executed design (dispositio)	Intended measures in the original design (ordinatio)
depth garden e/w	1573.00	1545.00	57.03	56.02	57.00/56.00	57.00
width garden n	854.50		30.98		31.00	32.00
Total depth garden + oecus	2334.00		84.63		85.00	85.00
Front (S) wall						
SW corner - opening tablinum	639.00		23.17			
opening tablinum	299.00		10.84			
right (E) post tablinum	138.00		5.00			
opening andron	107.00		3.88			
opening andron - SE corner	37.00		1.34			
Back (N) wall	immeasurable					
Left (W) wall	immeasurable					
Right (E) wall	immeasurable					
Colonnade						
depth e/w	944.00	923.00	34.23	33.47	34.00	34.00
width n/s	432.00	444.00	15.66	16.10	16.00	16.00
Front (S) portico						
depth e/w	313.00	310.00	11.35	11.24	11.00	11.00
Right (E) portico						
depth n/s	206.00	214.00	7.47	7.76	7.75/8.00	8.00
Left (W) portico						
depth n	216.50		7.85		7.75/8.00	8.00
Axial distance front (S)						
SW column - SE column	444.00		16.10		16.00	16.00
Axial distance back (N)						
NW column - NE column	432.00		15.66		15.50	16.00
Axial distances left (W)						
SW column - second column	300.00		10.88		11.00	11.00
second column - third column	299.00		10.84		11.00	11.00
third column - NW column	330.00		11.97		12.00	12.00
Axial distances right (E)						
SE column - second column	307.00		11.13		11.00	11.00
second column - third column	301.00		10.91		11.00	11.00
third column - NE column	338.00		12.26		12.00	12.00
Depth central oecus	775.00		28.10		28.00	28.00

Table 3. Measures atrium house of M. Terentius Eudoxus (VI 13, 6). Foot measure used in conversion: 27.53 cm.

ATRIUM HOUSE	Distance in cm		Distance in Oscan feet		Intended measures in the executed design (dispositio)	Intended measures in the original design (ordinatio)
FAÇADE						
NW corner - NE corner	1621.00		58.88		58.75	60.00
NW corner - fauces	689.00		25.03		25.00	26.00
width fauces	223.00		8.10		8.00	8.00
fauces - NE corner	709.00		25.75		25.75	26.00
FAUCES						
Depth e/w	477.00	504.00	17.33	18.31	18.00	18.00
width n/s	217.00	223.00	7.88	8.10	8.00	8.00
ATRIUM						
Depth e/w	1254.00	1256.00	45.55	45.62	45.50	46.00
width n/s	863.00	862.00	31.35	31.31	31.50	32.00
backwall	1561.00		56.70		56.50	57.00
Front (S) wall						
NW corner - opening fauces	325.00		11.81		11.75	12.00
width fauces	217.00		7.88		8.00	8.00
opening fauces - NE corner	320.00		11.62		11.75	12.00
Back (N) wall						
SW corner - opening andron	337.00		12.24			
opening andron	136.00		4.94		19.50	19.50
left (W) post tablinum	71.00		2.58			
width tablinum	503.00		18.27		18.00	18.00
right (E) post tablinum	50.00		1.82			
opening E oecus	147.00		5.34		19.00	19.50
opening E oecus - SE corner	317.00		11.51			
Right (E) wall						
right (S) post first cubiculum	161.00		5.85			
opening first cubiculum	133.00		4.83			
left (N) post first cubiculum= right (S) post second cubiculum	217.00		7.88			
opening second cubiculum	134.00		4.87			
left (N) post second cubiculum=	220.00		7.99			
Total length wall until opening ala	865.00		31.42		31.50	32.00
opening ala	389.00		14.13		14.00	14.00
Left (W) wall						
left (S) post first cubiculum	163.00		5.92			
opening first cubiculum	129.00		4.69			
right (N) post first cubiculum= left (S) post second cubiculum	216.00		7.85			
opening second cubiculum	135.00		4.90			
right (N) post second cubiculum=	221.00		8.03			
Total length wall until opening ala	864.00		31.38		31.50	32.00
opening ala	392.00		14.24		14.00	14.00
Cubicula right (E)						
depth n/s	345.00	347.00	12.53	12.60	12.50	12.50
Cubicula left (W)						
depth n/s	346.00	346.00	12.57	12.57	12.50	12.50
Ala right (E)						
depth s		345.00		12.53	12.50	12.50
width w		389.00		14.13	14.00	14.00
Ala left (W)						
depth s		346.00		12.57	12.50	12.50
width e	392.00		14.24		14.00	14.00
Impluvium						
Depth e/w	403.00	406.00	14.64	14.75	14.50	14.00
width n/s	351.00	347.00	12.75	12.60	12.50	12.00
impluvium - front (S) wall e/w	421.00	420.00	15.29	15.26	15.50	16.00
impluvium - back (N) wall e/w	424.00	424.00	15.40	15.42	15.50	16.00

Table 3. contd

impluvium - right (E) wall n/s	255.00	257.00	9.26	9.34	9.50	10.00
impluvium - left (W) wall n/s	257.00	261.00	9.34	9.48	9.50	10.00
Tablinum						
Depth e	575.00		20.89		21.00	21.00
width s		503.00		18.27	18.00	18.00

Table 4. Measures peristyle-garden of M. Terentius Eudoxus (VI 13, 6). Foot measure used in conversion: 27.70 *cm.*

PERISTYLE-GARDEN	Distance in cm		Distance in Oscan feet		Intended measures in the executed design (dispositio)	Intended measures in the original design (ordinatio)
depth e/w	1398.00	1325.00	50.47	47.83	50.00	50.00
width s		1206.00		43.54	43.50	45.00
Front (S) wall						
NW corner - opening W oecus	45.00		1.62			
opening W oecus	280.00		10.11			
right (W) post andron	71.00		2.56			
opening andron	92.00		3.32			
right (W) post tablinum	95.00		3.43			
opening tablinum	351.00		12.67			
left (E) post tablinum	116.00		4.19			
width E triclinium	ca. 500		ca. 18.05			
Back (N) wall	immeasurable					
Left (W) wall	immeasurable					
Right (E) wall						
NE corner - opening back room	157.00		5.67			
opening back room	90.00		3.25			
post back room/centre room	29.00		1.05			
opening centre room	114.00		4.12			
wall between centre/front room	355.00		12.82			
opening front room	103.00		3.72			
post front room/posticum	45.00		1.62			
opening posticum	152.00		5.49			
wall between posticum/triclinium	270.00		9.75			
Colonnade						
depth e/w	1011.00	942.00	36.50	34.01	36.50/34	36.00
width s		750.00		27.08	27.00	27.00
Front (S) portico						
depth e/w	387.00	383.00	13.97	13.83	14.00	14.00
Right (E) portico						
depth s		173.00		6.25	6.25	6.00
Left (W) portico						
depth s		283.00		10.22	10.25	10.50
Axial distances front (S)						
NW column - second column	174.00		6.28		6.25	
second column - third column	175.00		6.32		6.25	
third column - fourth column	227.00		8.19		8.25	27.00
fourth column - NE column	174.00		6.28		6.25	
Axial distances left (W)						
SW column - second column	203.00		7.33		7.33	
second column - third column	201.00		7.26		7.33	
third column - fourth column	198.00		7.15		7.16	34.00
fourth column - fifth column	199.00		7.18		7.16	
fifth column - back wall	141.00		5.09		5.00	
Axial distances right (E)						
SE column - second column	204.00		7.36		7.33	
second column - third column	204.00		7.36		7.33	
third column - fourth column	203.00		7.33		7.33	36.50
fourth column - fifth column	204.00		7.36		7.33	
fifth column - back wall	196.00		7.08		7.00	

Structure of the process:	***quod significat*** →	***quod significatur***
	Purposeful actions/ active factors	intended properties
Quantitas	***Ordinatio*** →	***Symmetria***
Quantative process of design, design as a mathematical entity Mathematical calculation	Mathematical arrangement ↓	Metrical coherence ↓
Qualitas	***Dispositio*** →	***Eurythmia***
Qualitative process of design, design as a conceptual and aesthetic entity Effective elaboration.	Conceptual three dimensional arrangement (*ichnographia, orthographia, scaenographia*) ↑	Visual coherence, harmony ↑
Auctoritas	***Distributio*** →	***Decor***
External factors, architectural form as social agent Destination	a economical and technical (the production) b social-economical (the consumers)	Acceptance of materials, form, arrangement and setting

Table 5. The architectural design process according to Vitruvius (after Geertman).[39]

use of the different possibilities offered by ancient mathematics and the developments that took place within it. The systematic use of geometric concepts - figures as well as proportions - and of their arithmetic approximations, was a significant characteristic of late Republican and Hellenistic architectural design.

Vitruvius' design process

Vitruvius' description of the process of architectural design and the presentation of its parts has been brought together by Geertman in an explanatory chart, clarifying the purpose of the different parts of the design process and stressing the relations that exist between them.[38]
The columns of table 5 present a division between the desired characteristics of a design (*quod significatur*) and the course of action that is necessary to acquire these characteristics (*quod significat*). The horizontal differentiation of the chart concerns three other Vitruvian terms or concepts: *quantitas*, *qualitas* and *auctoritas*, which are interpreted by Geertman as respectively the mathematical calculation, the effective elaboration of the design and external influences on the design. Rather than reading the chart as a top-down hierarchy of importance or chronology, the arrows indicate how the first and third level both contribute to the perfection of the design and its execution.

In Vitruvius' description, the starting point of an architectural design took place on the level of the *quantitas*. Here, a strict mathematical arrangement (*ordinatio*) ensured the metrological coherence (*symmetria*) of the design. This first level of mathematical perfection was necessary to reach the ultimate goal of visual coherence and harmony (*eurythmia*). On the second level of design, the *qualitas*, the conceptual three-dimensional arrangement of the design and the subsequent execution of the building plans took place (*dispositio*). However, before the desired state of *eurythmia* of the design could be reached, the architect needed to reconcile the mathematically perfect system of proportions (*ratio symmetriarum*) of the *ordinatio* with certain external factors (*distributio*). These external factors consisted both of practical considerations, such as the restrictions and demands of the site and production, as well as of more social considerations, such as the particular wishes of the owner. Any of these external factors could force the architect to leave the mathematical perfection of the original design and make the necessary corrections (*detractiones aut adiectiones*) to produce the right balance and ensure social acceptance of the design. This process of adapting the mathematically perfect design in order to create visual perfection is described by Vitruvius' as a special skill that a good architect needed to acquire.[40] In summary, the desired end-result of *eurythmia* is reached

by a combination of the first level of design, the *ordinatio* and the third level of design, the *distributio*. The total design can only be valid by combining both technical and social values.[41]

In the metrological analysis of the House of Philippus and the House of M. Terentius Eudoxus, the reconstruction of the design will be discussed on the two general levels that can still be recognised in the built structures, firstly the level of the design, both in outline (*ordinatio*) and detailed dimensions (*dispositio*) and secondly the modifications to the abstract design (*distributio*). The way in which the design analysis is presented below is a direct result of the author's choice and not a reflection of ancient practice. I have opted for a description of the system of design that underlies the structures of these two city residences by breaking it up into different steps that hopefully make clear to the reader which different elements we can discern within the design and how they are related to each other. This does not mean to say that the ancient architect used these same steps when he was planning his design. Rather, he probably had no need to do so, as he was much more familiar with the process than I or my readers are likely to be. The same argument can be applied to the AutoCAD drawings that I have added to the written text, which only serve us to better understand the underlying principles of the different models that were used, which were all part of the architect's repertoire.

Previous research

There are, in this particular field of research, two scholars that have already studied the designs of a number of atrium houses in Pompeii, C. Peterse and H. Geertman. A comparison between the two studies is particularly interesting since Peterse and Geertman each follow a different school of thought on the methods used by antique architects in their designs of Pompeian atrium houses.

In his publication of 1984, Peterse[42] discusses his research on five of Pompeii's larger atrium houses[43] and presents a method for the calculation of the value of the Oscan foot that was used in each particular building, a refinement on Nissen's standard value of 27.50 cm.[44] Furthermore, by analysing the principal measurements of the house and their relationship to each other, Peterse aims to reconstruct the design of these houses. In his conclusion he states that, despite the obvious architectural unity that exists within the house, a clear proportional model lacks and the design of the houses was not based on fixed prescriptions, but on other factors such as traditional building methods, the situation of the building ground and individual circumstances. Although each design reveals many proportional relationships, Peterse does not recognise a unified system that connects them. He also emphasises the presence of several fixed measurements within the houses for some spaces, such as the depth of the alae (around 12'-13') and of the tablinum (around 20'-21'). In later publications, Peterse makes a detailed metrological analysis of the House of Pansa (VI 6, 1)[45] and of the House of the Labyrinth (VI 11, 8-10).[46] On the design of the House of Pansa he concludes that it was based mainly on 'rational' proportions (i.e. 1 : 2, 3 : 4, 5 : 6), expressed in round foot measures. However, according to Peterse, the approximation in round foot measures of a geometric proportion of 1 : √2 and of the *sectio aurea* also played a part. Again, in his reconstruction of the design of the House of the Labyrinth, Peterse concludes that the architect worked with rational proportions, starting with the principal lines of the design and finishing with the more detailed measurements. He also emphasises that the use of these rational proportions was limited by the existence of set measurements for the alae and tablinum and the width of doors in the Samnite building practice, leaving only the shape and size of the atrium as a variable factor in the design.

Geertman,[47] in his analysis of the five atrium houses that had been measured in detail by Peterse, focuses more specifically on the reconstruction of the method of design applied in these houses. This line of research can, according to Geertman, only be pursued if we can make use of a model that is likely to have been used within the antique design practice. Such a model, a common phenomenon in antique architecture, is the geometric design. To Geertman's opinion, his hypothesis and the premise of his research, the idea that the geometric procedure of design was applied in the Greek and Roman world, is supported by ancient sources as well as by several geometric analyses of ancient buildings. The results of these analyses can be considered valid if they meet with the following two criteria:[48]

1. The reconstructed design must reflect a unity of ground plan and build-up, preferably based on one building element, which is used as a module by the architect.
2. The construction lines of the reconstructed design must portray a logical and practical articulation that can be directly related to the building process at the building site.[49]

In the analysis of the group of five Pompeian

atrium houses, Geertman puts this hypothesis to the test and concludes that the geometric method of design was indeed applied. He also comes to realise that the antique architects working with this method of design not only made use of direct geometric systems, which are relatively easy to recognise, but also worked with arithmetic approximations of those geometric values that are irrational.[50] The advantage of the use of arithmetic approximations to express a geometric value, even though they can never be completely accurate, is the fact that the approximations render those values that cannot be expressed in round measures usable within a system of arithmetic values. For example the geometric value √2 (1.4142136) can be approached by the following arithmetic approximations: 5/7 or 12/17.[51]

Geertman's metrological analysis of these five Pompeian atrium houses showed that Pompeian architects were familiar with and made good use of the system of arithmetic approximations of geometric figures and proportions. In his later publications on the design of round temples and the design of temple doors,[52] Geertman further elaborates on the use of arithmetic approximations in antique design. One of the conclusions of his study is that the use of different approximations for the expression of one geometric proportion (e.g. the use of 5/7 and 12/17, both expressing 1 : √2) in one design was common practice. This presence of more than one approximation of the same geometric proportion can, according to Geertman, be explained as an indication of a conscious use by the architect of the arithmetic peculiarities of the different approximations. This is partly to exploit the opportunities of the system itself, for instance for the combination of the decimal and duodecimal systems, and partly based on the architect's free choice in order to introduce differentiation within the design.[53]

Comparing the different studies of Peterse and Geertman and analysing their results, there may at first sight appear to be a clear distinction between their 'schools of thought', the first upholding a system of clear arithmetic proportions and practical considerations, the second a system of arithmetic approximations of geometric figures and proportions. However, regarding the methods and results of these two researchers as scientific opponents, both advocating a different system without any consideration for each other or other significant factors in the design process, would be to overemphasise the differences between them and drawing them to an extreme.[54] For example, Geertman's recognition of the use of a geometric-arithmetic system of design in Pompeian atrium houses does not place them on a high and incomprehensible theoretical level of design, far removed from Peterse's practical considerations. On the contrary, Geertman repeatedly draws attention to the fact that the geometric-arithmetic design process takes place on a number of different levels, from building practice and traditions and a design-technical level to that of theoretical-aesthetical considerations.[55] The use of arithmetic approximations to express geometric proportions was actually a practical and much used method in ancient architecture, readily applicable for construction on site, while also usable on a theoretical and technical level. Furthermore, there was indeed an 'overlap' between the purely geometric and the purely arithmetic methods of design.[56] Both methods were probably part of an architect's curriculum, taught to him during his period of training and education and ready for him to use.

That brings us to the consideration of what exactly a 'Pompeian architect' was when discussing private architecture. Above all, he seems to have been a well educated professional builder, rather than the skilled architects that were responsible for highly conspicuous public buildings in a large city such as Rome. More likely, the Pompeian 'architects' were a type of craftsman that was familiar with certain schemes of proportions and set combinations that were dictated by building tradition.[57] This is not to say that the Pompeian architects were deprived of a certain education, as the designs of the atrium houses reveal a clear legacy of architectural skill in their designs.

THE ANALYSIS OF THE DESIGN OF THE ATRIUM HOUSES

These two identical atrium houses were constructed in the southern end of insula VI 13, of which the entire width was available for the design of these houses (*fig. 10*). The ideal width of the insula measures 120′. The total depth of the atrium houses was set at 85′, resulting in a large rectangular area of 85′ x 120′ for the construction of two houses.[58] The sides of this rectangle are related as 1 : √2 (approximation 24 : 17). The total width of 120′ was divided into two equal parts, leaving two identical areas of 60′ x 85′ for the construction of two atrium houses. The sides of this rectangle are also related as 1 : √2 (approximation 17 : 12). This series of measurements of 60′ : 85′ : 120′ is in fact the arithmetic approximation of the geometric proportions 1 : √2 : 2, which is reflected in the Pythagorean sequence;[59] 60′ is the side of the module square, 85′ the diagonal of that square

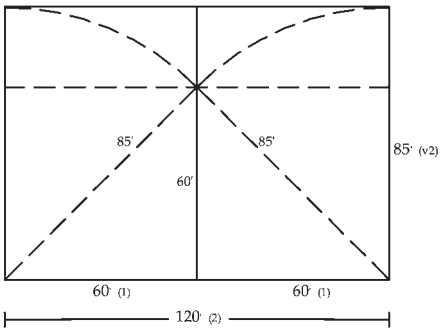


Fig. 10. Ideal plot measures of the House of Philippus and the House of M. Terentius Eudoxus (drawing author).

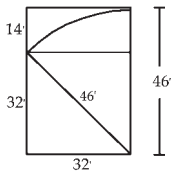


Fig. 11. Internal dimensions of the atrium and alae (drawing author).

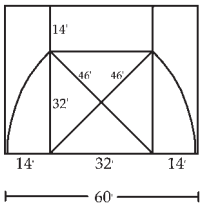


Fig. 12. Width of the side ranges (drawing author).

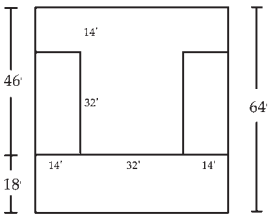


Fig. 13. Depth of the front range (drawing author).

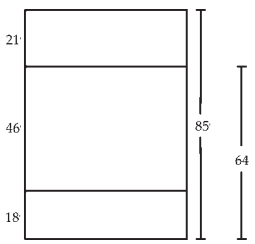


Fig. 14. Depth of the back range (drawing author).

and 120′ double the side of the square. The following description of the design of the atrium house can be applied to both the House of Philippus and the House of M. Terentius Eudoxus.[60]

A. The design: ordinatio/dispositio

1. The internal division of space within the 60′ x 85′ rectangle was based on the dimensions of the atrium, the core of the design (*fig. 11*). A 32′ x 32′ square, described upon the width of the atrium, was used by the architect as the module for the central area of the design. First, the length of the atrium was created by the measure of the diagonal of the 32′ x 32′ module square, setting the dimensions of the atrium at 32′ x 46′, two sides related as 1 : √2 (approximation 16 : 23).[61] The difference between these measures was used for the width of the alae: 46′ - 32′ = 14′. The same geometric figure was used for the dimensions of the side-ranges of the atrium (*fig. 12*). The 32′ width of the atrium was extended to both sides by the measure of the 46′ diagonal, creating side-ranges of a depth of 46′ - 32′ = 14′. So, in fact, only one geometric figure (32′ x 32′) was used for the creation of the different dimensions for the spaces in the central area of the house: the width and length of the atrium, the depth of the cubicula and alae as well as the width of the alae. These measurements can also be expressed as a series of proportional relations: 32′ = a; 46′ = a√2; 14′ = a√2-a.
2. The module square of 32′ x 32′ was also used in the build-up along the depth of the house: double the side of this square was used for the measure of the depth of the house from the entrance until the back wall of the atrium: 32′ x 2 = 64′ (*fig. 13*). The Pythagorean sequence, reflecting the geometric proportions of 1 : √2 : 2, that was present in the dimensions of the total plot for the construction of these houses, was now also present in the more detailed design in the internal dimensions of 32′ : 46′ : 64′ (a : a√2 : 2a). The depth of the front-range (the set of spaces including the fauces) was now fixed to the measure of the total depth minus the depth of the atrium: 64′ - 46′ = 18′ (2a - a√2).
3. The only remaining element in the basic internal division is the back-range of the atrium house (*fig. 14*). The leftover space between the total depth of the plot and the depth of the front-range and atrium together measures 85′ - 64′ = 21′, the measure of the back-range of the house.
4. The next step in the design, after the basic division of space into several main areas (i.e. the atrium, the side-ranges, the front and back-

range) had been completed, was to create the dimensions on a more detailed level, specifically within the atrium (*fig. 15*). The basic module square of 32′ x 32′ remained present in this space, not only in its width, but also in the dimensioning of the length. The first, closed part of the atrium side wall that forms the front of the two cubicula, also measured 32′, followed by a 14′ opening to the ala on the left and right. The front wall of the atrium was divided into three areas, the width of the fauces and the walls left and right of the fauces, resulting in the following division: 12′ - 8′ - 12′. Along the back wall of the atrium, the opening to the tablinum has the same measure as the depth of the front-range: 18′. The remaining 42′ of the total width of 60′ was divided equally along the back wall to the left and right of the tablinum, resulting in the following dimensions: 21′ - 18′ - 21′. The central space of the atrium was subject to a tripartite division along its length and width by the position of the impluvium. Along the length this division measures: 16′ - 14′ - 16′. Along the width the atrium was divided as follows: 10′ - 12′ - 10′. The sides of the impluvium were related as 12′ x 14′.

The design of the atrium house, applied in twofold in the House of Philippus and the House of M. Terentius Eudoxus, was based on an arithmetic approximation of a geometric figure. The relations between the different proportions within the design can all be expressed in one coherent series of geometric proportions, which were expressed as arithmetic approximations on the building site:

32 : 46 : 64
a : a√2 : 2a

14 : 18
a√2-a : 2a- a√2

The general outlines of the abstract design were thus based on a geometric figure and several measurements that were derived from that figure, together forming a coherent basic scheme. On the level of the more detailed and practical division of space, such as the position and width of openings in the front and back wall of the atrium, or the dimensions and position of the impluvium, the architect switched to rational proportions. These were not immediately connected to the larger scheme of design, but were apparently chosen for their functional nature and coherency on the more detailed level of division of space within the house. In fact, the rational tripartite divisions that were created by the architect, in the length as well as the width of the design, give form to a series a dynamic visual lines throughout the atrium. Upon entering the atrium through the fauces, the series of proportional relations within the width of the atrium consist of a build-up of increasing measures along the centre of the visual axis:

atrium back wall: 21′ - 18′ - 21′ — 18′ (tablinum)
central space: 10′ - 12′ - 10′ — 12′ (impluvium)
atrium front wall: 12′ - 8′ - 12′ — 8′ (fauces)

At the same time, the rational proportions that shape the space of the atrium along its depth, namely the division along the side walls and the central tripartite division by the impluvium, display some of the measures that lie at the base of the design: 32′ (16′ + 16′) and 14′.

14′ (ala) 16′ 14′ (ala)
14′ (impluvium length)
32′ (side wall) 32′ (side wall)
16′

B. Modifications to the initial design: distributio

As was described above, the two identical houses that were designed for construction within the southern end of insula VI 13 were based on a total insula width of 120′. However, in reality the width of this insula only added up to a total of 117½′ (measured along the back walls of the successive atria; along the façade, the total width adds up to 118½′). Similar to what Peterse recognised in the design of the double-atrium house of the House of the Labyrinth,[62] the architect needed to adjust his original design to fit with the real situation at the construction site, which was 2½′ smaller.

1. First, 1½′ could be taken off the intended width without much trouble. The original design included an outer wall on the left side as well as on the right side for both houses. However, at the construction site, the wall between the two houses is a shared wall, leaving a total of only three walls of 1½′ each instead of four. This meant that, in actual fact, the width of the designs of the atrium houses needed be reduced in total by only 1′. The standard depth of 12½′ of the side-ranges, which include the cubicula and alae, was not altered. This left

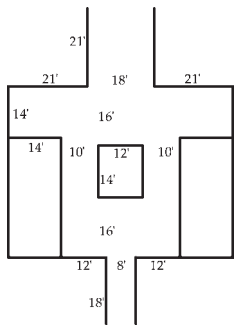


Fig. 15. Detailed dimensions of the atrium (drawing author).

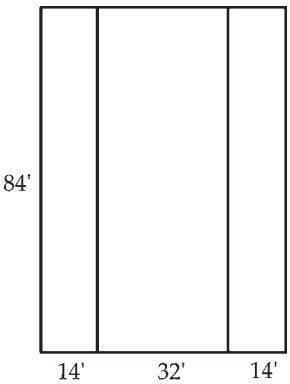


Fig. 16. House of Philippus: peristyle-garden: general division of space (drawing author).

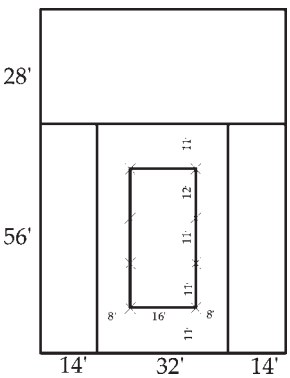


Fig. 17. House of Philippus: peristyle-garden: dimensions of the four-sided peristyle (drawing author).

only the width of the atrium to make the necessary adjustment to. The houses were identical in their design and remained identical in their construction: the architect took an equal measure of ½′ off the width of both atria, now each measuring 31½′. The total succession of dynamics of space along the width of the insula was now:

House of Philippus:
(1½′) 12½′ 31½′ 12½′ (¾′) = 58¾′

House of Eudoxus:
(¾′) 12½′ 31½′ 12½′ (1½′) = 58¾′

117½′

2. The total planned depth of the atrium houses of 85′ was altered slightly to a total depth of 84½′, as a result of the fact that the architect preferred to hold onto the original dimensions of the atrium. As explained above, the less than ideal width of the insula caused a reduction in the width of the atrium from 32′ to 31½′. By reducing the length of the atrium by the same measure, the architect could ensure that his intended scheme of design was still carried out more or less according to the original plan. He therefore reduced the intended length of the atrium by ½′, creating a new depth of 45½′. This change to the depth of the atrium also had its effects on the internal division of that space. Worth mentioning here are the dynamics of the side walls. The 14′ opening to the alae remained unaltered as the architect chose to decrease the length of the first, closed part of the atrium wall giving access to the cubicula behind, from 32′ to 31½′. The architect's preference for this option was most likely instigated by the fact that this way, the basic characteristics of his design remained unaltered. The original 32′ x 32′ square, described upon the width of the atrium and the closed side wall, was still present in the new dynamics as a 31½′ x 31½′ square.

In the following section, the designs of the peristyle-gardens of the House of Philippus and the House of M. Terentius Eudoxus will be discussed. Contrary to the identical design and execution of the two atrium houses, the peristyle-gardens were added at a later time as separate building projects.

ANALYSIS OF THE DESIGN OF THE PERISTYLE-GARDEN OF THE HOUSE OF PHILIPPUS

The area that was available for the creation of a peristyle-garden behind the existing atrium house of the House of Philippus measured 60′ x 85′, identical to the area of the house.[63]

A. The design: ordinatio/dispositio

1. The general division of space along the width of the garden-area was a copy of the dynamics along the width of the atrium house: two side-ranges of 14′ each, flanking a central area of 32′ in width (*fig. 16*).
2. The total depth of the plot (85′) was divided into two general areas: the peristyle-garden and a large oecus, placed centrally at the back. Ideally, this division was based on a 2 : 1 ratio-

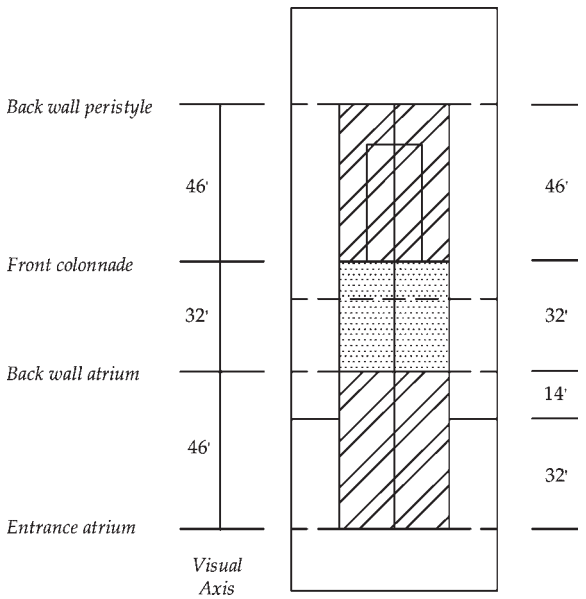


Fig. 18a. House of Philippus: visual axis (first series of viewpoints) (drawing author).

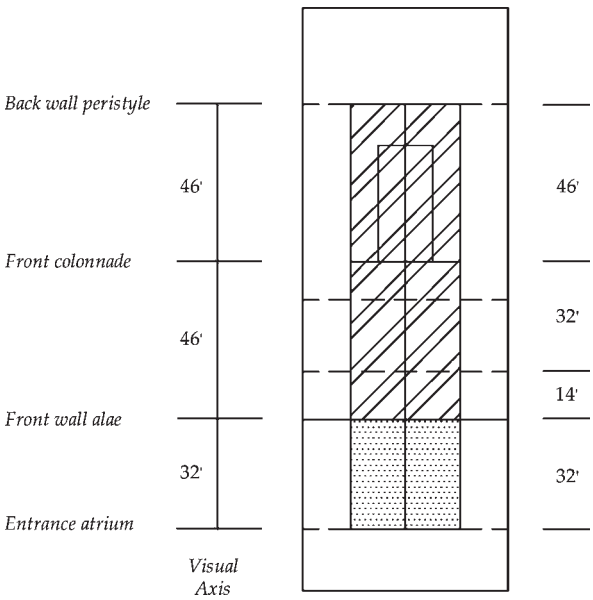


Fig. 18b. House of Philippus: visual axis (second series of viewpoints) (drawing author).

nal proportion, creating two areas of 56′ (garden) : 28′ (oecus). Together, these measures only add up to a total of 84′ and the remaining 1′ was used to increase the depth of the peristyle-garden to 57′. In the built-up situation, the 57′ : 28′ ratio is thus a slight anomaly of the principle of rational proportion (2 : 1) that the design was based on (*fig. 17*).

3. The following element within the design concerns the four-sided peristyle (*fig. 17*). The width of the peristyle was proportioned to measure half the width of the garden: ½ x 32′ = 16′. It was positioned centrally within the width of the garden, aligned with the visual axis of the atrium house, creating porticoes to the left and right of 8′ each. The division of space is: 8′ - 16′ - 8′, based on the rational proportions of 1 : 2 : 1.
4. Within the depth of the peristyle-garden, the architect created the following dimensions (*fig. 17*): a front portico 11′ deep, followed by the depth of the peristyle of 34′ and a back portico 12′ deep, resulting in the following general division of space: 11′ - 34′ - 12′. The four columns were positioned along the depth of the peristyle with intercolumnia of 11′ - 11′ - 12′ from front to back.
5. The division of space along the depth of the garden appears rather haphazard and cannot be fitted into the proportional schemes that have been discerned so far. This seems surprising in a property that was as carefully planned as the House of Philippus. However, the meaning of the chosen dynamics becomes clear when we place the individual measurements in the consecutive scheme of proportions that run along the visual axis of the entire property. The consecutive layout of the atrium and peristyle is proportioned in such a way that several 'main areas' were created: the first area, from the threshold to the atrium until the front wall of the alae (the 'closed part' of the atrium side walls), measures 32′; the following open area of the alae measures 14′; the third area comprises the space of the atrium and the portico behind it, marked at the back by the front row of the colonnade and measures 32′ again (21′+11′); The last main area measures a total of 46′ (34′+12′) and runs from this point until the back wall of the peristyle, which also marks the entrance to the central oecus behind. These areas 32′-14′-32′-46′, which represent the principal proportions of the architect's design, create a strong proportional division of space along the visual axis of the property. Depending on which focal points along this visual axis the viewer's eye was drawn to, we can reconstruct two series of viewpoints (*figs. 18a-b*). Another remarkable aspect of this visual axis is that it can be reversed: the same dynamics are perceived from the entrance to the house and looking towards the back as from the back of

the house, when positioned in the grand oecus behind the peristyle, and looking towards the front. Only the built situation would have created a different feel to these view directions, looking from the dark of the atrium towards the light of the peristyle when entering the house, and from the light of the peristyle into the dark of the atrium when the back of the house had already been penetrated.

What first appeared to be a random set of measurements that could not be tied in with the general scheme of design, has actually turned out to be a highly symmetrical and carefully planned set of visual dynamics, created to impress and bring to a stand still the visitors that would enter this city residence.

The fact that the layout of the peristyle-garden was so closely tied in with the design of the atrium house may surprise us, considering that these two areas of the property were not constructed as one project. However, just as an architect with professional know-how was able to foresee the outcome of his project even before it was constructed,[64] he would also be able to recognise and use the design underlying an existing structure, even though it remained invisible to all others entering that structure. The general design was based, in part, on a copy of the atrium house and, in part, on a division of space that approximated a perfect 2 : 1 rational proportion. The true meaning of this design, however, is found in its detailed measures, which fit perfectly into the scheme of the atrium house and together created one coherent picture.

B. Modifications to the initial design: distributio

1. The area of the peristyle-garden as it was defined within the insula is not a completely regular rectangle, but shows some slight anomalies, caused by the divisory line with plot VI 13, 19 and the boundaries with plots VI 13, 6 and VI 13, 10. As a result, the basic design had to be adjusted to fit the real situation. Whereas the width of the central area of the garden measures the intended 32′ at the front, it narrows to a total of 31′ at the back. This means that the division of space at the front remained as it was planned (8′ - 16′ - 8′), but needed to be altered slightly at the back of the garden, where we now observe the following division of 8′ - 15½′ - 7½′. Along the left side of the peristyle-garden, a series of four rooms of 14′ deep and a side-entrance (21) open up onto the left portico. By taking ½′ both off the width of the peristyle and off the right portico, the overall dimensions remained virtually the same as they were at the front of the garden.
2. The total depth of the peristyle-garden was also a little irregular, measuring 56′ along the left and 57′ along the right. While the division of space along the right could be carried out as planned (11′ - 34′ - 12′), the loss of 1′ on the right side was subtracted from the back portico, resulting in the following dynamics: 11′ - 34′ - 11′.

ANALYSIS OF THE DESIGN OF THE PERISTYLE-GARDEN OF THE HOUSE OF M. TERENTIUS EUDOXUS

The area that was available for the construction of a peristyle-garden behind the atrium house measured 60′ in width, an extension of the width of the atrium house, and 50′ in depth until the side wall of a small atrium house VI 13, 10 behind the garden.[65]

A. The design: ordinatio/distributio

1. The first general division of space along the total width of the plot was to divide the total space of 60′ into two areas: a strip of 14′ wide along the right (E) side of the garden and a 46′ wide area comprising the central space and the left side (*fig. 19*). This general division of space along the width is a direct copy and continuation of the situation that was already present in the atrium house, where the right side range (cubicula and ala) also measured 14′, and the combined area of the atrium and the left side range add up to 46′ (32′ + 14′). The main area of the peristyle-garden of 46′ was used to create the width of the three-sided peristyle and two porticoes, one on the left and one on the right side. The 14′ strip on the right gave room to a series of four spaces and a side-entrance.
2. Within the total area of the garden reserved for the peristyle, measuring 46′ in width and 50′ in depth, a 27′ x 36′ colonnade was positioned, its sides related as 3 : 4 (*fig. 20*). As a result of the relative shortness of the available space, the architect opted for a three-sided pseudo-peristyle placed against the back wall of the garden, with five columns on each side of the colonnade. It seems here that the architect chose for the construction of an almost unsuitably wide colonnade within the garden-area, possibly with the intention of compensating for the lack of sufficient depth in the plot. The presence of a

range of spaces along the right side of the garden meant that the 27′ wide colonnade could not possibly be placed centrally behind the tablinum and the visual axis of the atrium house. However, by manipulating the available space, the architect managed both to create the illusion of symmetry and realise a practical division of space along the width of the peristyle-garden. The illusion of symmetry was created by widening the axial distance between the columns that are situated behind the tablinum, increasing it by 2′ in comparison to the axial distances between the remaining three columns (8¼′ for the increased axial distance and 6¼′ for the remaining distances). To further enhance the appearance of symmetry, the architect created a portico to the right of the colonnade with a width identical to the axial distances between the remaining columns (6¼′). Whereas the real situation in the field is very irregular, with three columns (or two axial distances) to the left of the tablinum opening and only two columns (or one axial distance) to the right of the tablinum, the added width of the right portico creates the illusion of another identical axial distance on the right side. On the left side of the colonnade, a much wider portico was created (12¾′), which was placed in one line with the width of the opening of the oecus left of the tablinum. That way, the view was extended from the oecus into the garden and the portico offered an intermediate space between the two rooms that were focussed onto the peristyle and were used for dining and reception: the oecus to the left of the tablinum and the large summer dining-hall in the north-west corner of the garden.
The actual division of space in the *ordinatio* can be reconstructed as follows:

o	o	o	o	o	
12¾′	6¼′	6¼′	8¼′	6¼′	6¼′

3. Within the 50′ depth of the garden, the three-sided peristyle with a 36′ depth was positioned against the back wall. The remaining space at the front, measuring 50′ - 36′ = 14′, was used for the depth of the portico, connecting the atrium house to the peristyle-garden (*fig. 21*). The most regular positioning of the five columns against the back wall would have resulted in four axial distances of 7¼′, and one of 7′.

B. Modifications to the initial design: distributio

1. Some small changes were made to the basic scheme of design as described above, all related to the situation at the building site. Firstly, the total width of the plot behind the atrium house of M. Terentius Eudoxus measured a total of 59′, which meant that 1′ was lost from the original design, based on a 60′ width. Furthermore, the internal space of the peristyle-garden was reduced on the building site by the presence of the left wall of the property (the partition wall with the garden of the House of Philippus, wall thickness 1½′). The side range of spaces on the right side of the garden remained unaltered in the executed design, measuring 14′ in depth. The left-over space that was the width of the peristyle-garden thus measured the ideal 46′ minus 1′ and minus 1½, leaving a real width of only 43.5′. Understandably, the architect would be reluctant to introduce any alterations in the care-

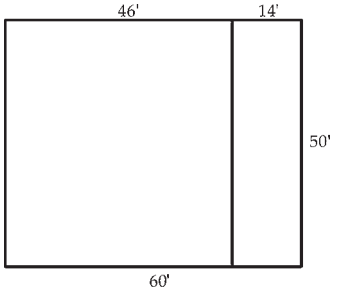


Fig. 19. House of M. Terentius Eudoxus: peristyle-garden: general division of space along the width (drawing author).

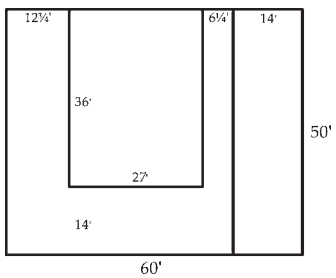


Fig. 20. House of M. Terentius Eudoxus: peristyle-garden: dimensions of the three-sided peristyle (drawing author).

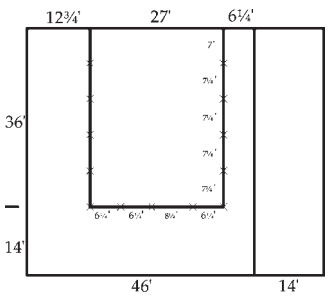


Fig. 21. House of M. Terentius Eudoxus: peristyle-garden: interaxial distances of the columns (drawing author).

fully planned scheme of the positions of the columns along the front of the colonnade and the right portico, which together created the impression of symmetry. The only alternative was then to reduce the width of the left portico by 2¼′, which in the executed design then measured 12¾′ - 2½′ = 10¼′.

2. The depth of the garden-area at the building site was rather irregular due to the orientation of the back wall of the garden, which reflects an older situation within the insula. The total depth of the garden varies from 48′ on the left to 50.5′ on the right side. The architect chose to give the portico in front of the peristyle a constant depth of 14′ by adjusting the lengths of the left and right sides of the peristyle, which now measure 34′ and 36.5′ respectively.

   As a result of the irregular measures of the left and right sides of the colonnade, the axial distances between the columns and the last column and the back wall were adjusted accordingly:

   On the left: 7⅓′ 7⅓′ 7⅓′ 7⅓′ 5′ = 34′
   On the right: 7⅓′ 7⅓′ 7⅓′ 7⅓′ 7′ = 36.5′

On the series of intercolumnia on the left side of the peristyle, we can further comment that they progressively get narrower towards the back of the garden. Here we can see how the architect changed a vice into a virtue, using the lack of space to carry out the initial design by creating a desirable visual effect: when seated in the oecus left of the tablinum and overlooking the garden, the eye is drawn to this series of columns. By progressively diminishing the distance between the columns, the illusion of a greater depth of the garden is created.[66] The line of sight from the oecus left of the tablinum is not the only view out of a space into the peristyle-garden. The large dining room in the far left corner of the garden also offers a view into the peristyle, and this second visual axis crosses the line of sight from the oecus (these visual axes are represented by the dotted lines in fig. 3).

THE CONTENT OF DESIGN: SOCIAL MEANING

In trying to understand the social concepts that played a role in the process of development of a building, from the initial conception of design, through its consequent adjustments and finally the actual construction, as well as in uncovering the social meaning that was embedded within that design, we can work with the following premises:

1. A metrological analysis of the principal measures of the original layout of a house can lead to the recognition of the invisible design that lies at the base of the built structures that we see today.
2. The characteristics of the design, which can be expressed as a two or three-dimensional scheme, are not just random choices but belong to an architectural tradition.
3. The design of a house is a way of expressing and emphasising certain spatial and social effects and is 'physically' present for a certain amount of time, during the process leading up to the final construction of a building on site.
4. With the construction completed and the built structure displaying the desired end-result, the design was soon forgotten. However, prior to the actual construction exists a phase of negotiations between the owner and city administration over the purchase of a suitable plot of land and after that, a phase of negotiations between the owner and the architect over the details of the new house.
5. During this time the design plays an active role in this entire process and holds within it a clear social function, which is at that time determined and adjusted to each specific situation. As Wilson-Jones puts it: 'design is not a static entity, it is a process of dynamic interaction between concept and contingency, between the generic and specific and evolves progressively as multiple individual decisions are assimilated into the whole'.[67]

What then can the designs of the House of Philippus and the House of M. Terentius Eudoxus and of their respective peristyle-gardens tell us about the social factors that played a role in the specific choices that were made when these designs were still part of the pre-constructural process: the process from initial conception through various adjustments to the final form? And, furthermore, does the social meaning of the design of the house stand the test of time during its history of use of over two centuries?

THE ORIGINAL AREA OF THE BUILDING PLOT

The analysis of the wall structures and the consequent reconstruction of the building history of the two houses VI 13, 2 and VI 13, 6 has made clear that the peristyle-gardens were a later addition to the already existing atrium houses. Just how much time passed between these two building phases cannot be determined exactly; only a relative chronology can be recognised based on the presence of different building materials and

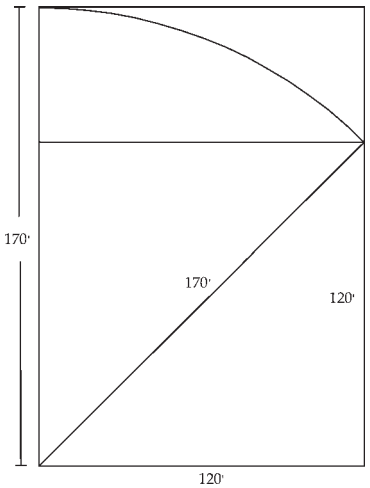


Fig. 22. The layout of plots: phase I (drawing author).

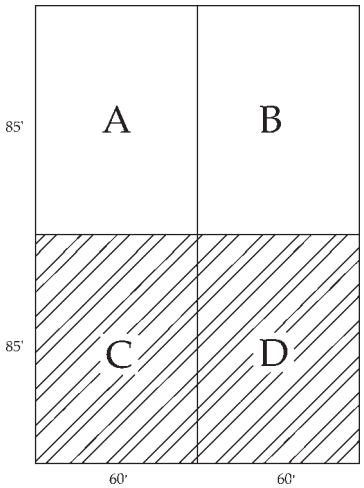


Fig. 23. The layout of plots: phase II (drawing author).

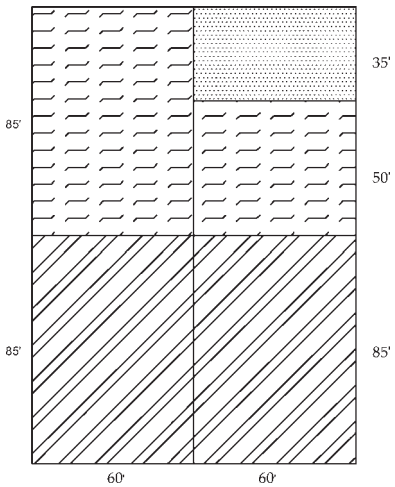


Fig. 24. The layout of plots: phase III (drawing author).

techniques in the houses and gardens. A reconstruction of the original plot of land on which the House of Philippus and the House of Terentius Eudoxus were built, based solely on the analysis of the built structures, would easily lead to the assumption that these atrium houses originally possessed a small enclosed garden (*hortus*) at the back, which is now no longer retraceable. Such a reconstruction of the original layout of Pompeian atrium houses with only a small garden at the back, prior to the introduction of the peristyle-garden, is not unusual. In this particular case, the leftover area in insula VI 13, which is in the situation of AD 79 taken up by the peristyle-gardens of the Houses of Philippus and Terentius Eudoxus, could have been used for the construction of two smaller houses with an east-west orientation. These older houses would then have been demolished at the time when the peristyle-gardens were constructed.

Contrary to this interpretation of the built structures and reconstruction of the original situation in insula VI 13 at the time of the construction of our two houses, the metrological analysis gives rise to a rather different reconstruction of the original plot division. The divisory line that runs along the back wall of the peristyle-garden of the House of Philippus and continues from the west to the east side of the insula, is situated in a position within the insula that is of more importance than might be apparent at first sight. Measured from the south façade of the insula, also the front façade of the houses of Philippus and Terentius Eudoxus, this divisory line is positioned at a distance of 170′. In the situation of AD 79, the House of Philippus shows a division of this total depth of 170′ into two equal parts of 85′, the first for the atrium house and the second for the peristyle-garden. The atrium house of Terentius Eudoxus also measures 85′ in depth, but its peristyle-garden only measures a total depth of 50′.

The total ideal width of the insula that was used in the original design, is 120′. If we place this measure in relation to the total depth of 170′, a rectangle emerges with its two sides related as 120′ : 170′ (*fig. 22*), which can also be expressed as a geometric proportion of 1 : √2 (approximation 12 : 17). If we then include what we have already learned from the metrological analysis above, namely the fact that the total width of the insula was divided into two equal parts of 60′ and that the total depth of the House of Philippus was also divided into two equal parts of 85′, a clear mathematical picture emerges: a large rectangle of 120′ x 170′ (1 : √2) that was originally divided into four quadrants of 60′ x 85′ (*fig. 23*), with the exact same geometric proportional relation between the sides (1 : √2).

The built situation at the site, however, shows a more complex picture with a temporal evolution in the development of construction within the insula. What we see today is the final result of several different building phases up until AD 79. Regarding the southern area of insula VI 13, we may use the results from the studies that have been presented in this article to make a tentative reconstruction of the entire process from the initial acquisition of a plot of land from the town's administration to the final phase of construction as follows.

Phase I

In the initial phase of plot division of the insula by the 'cadastre',[68] a large plot of land was purchased by the future owners of the houses now known as the House of Philippus and the House of Terentius Eudoxus. The ideal measures of this plot of land, covering the entire width and slightly more than half the total length of insula VI 13 along the Via della Fortuna, were 120′ x 170′ (*fig. 22*).

Phase II

For the construction of two atrium houses on the Via della Fortuna, an architect was employed. The original plot of land was divided into four equal quadrants of 60′ x 85′ (*fig. 23*), each taking up half the width and half the depth of the entire area. The actual building activities during this phase were limited to the construction of the two atrium houses, taking up the front two quadrants (C and D). The use and function of the remaining area of the plot at the back of the houses at this time is unknown.

Phase III

Some time after the completion of the atrium houses, the land at the back was also built over. The construction of the peristyle-gardens behind the Houses of Philippus and Terentius Eudoxus seems to have been part of one building project again, as was the case in the construction of the houses. The lack of space in the peristyle-garden of the House of Terentius Eudoxus prevented the construction of a dining hall at the back of the colonnade, such as in the larger garden of the House of Philippus. This problem of a lack of space was easily resolved, however, by the construction of a dining hall on the left side of the peristyle of Terentius Eudoxus, overlapping part of the space reserved for a series of rooms on the right side of the garden of Philippus. In other words, a considerable part of the garden-area of Philippus was given up to Terentius Eudoxus so that, presumably, he too could receive and entertain his guests in a suitable manner.

There is, however, one remaining element within the original area of 120′ x 170′: a small atrium house constructed at the back of the garden of Terentius Eudoxus, with an east-west orientation (VI 13, 10). Here, again, the metrological analysis provides us with valuable information on the relation between the properties of Philippus and Terentius Eudoxus and this independent unit. Fig. 24 depicts the schematic division of the 120′ x 170′ area into the five elements that are present: the two atrium houses, two peristyle-gardens and the independent house VI 13, 10. As we can see, quadrant B, with a total length of 85′, was divided into an area of 50′ (peristyle-garden of Terentius Eudoxus) and an area of 35′ (VI 13, 10). If we then express these measures in proportional relations, the situation becomes clear: the entire build-up of the 120′ x 170′ plot of land into five elements, their construction separated in time, forms part of one systematic plan of layout. In this system, all elements are related to the measures of the original plot and the individual measures form part of one series of geometric proportions:

120′ (= 2a) : 170′ (= 2a√2) = 1 : √2
60′ (= a) : 85′ (= a√2) = 1 : √2

The other measures are derived from these basic proportions:

50′ = 170′-120′ = 2a√2-2a
35′ = 120′-85′ = 2a-a√2

Considering that the construction of the small independent house (VI 13, 10) took place on the 60′ x 85′ plot of land that is situated behind the House of Terentius Eudoxus and that the size of its plot (35′ x 60′) is an integral part of the proportional system of division within the 120′ x 170′ rectangle, we may assume that the ownership of VI 13, 10 was somehow closely connected to the two larger atrium houses.

In conclusion we can say that the metrological analysis of the situation in the southern half of insula VI 13 has in effect created a window for us to actually look into the process of layout, planning and construction at this site. Furthermore, it has revealed a remarkable level of coherence between the built units, which would not have become apparent from an analysis of the building history of these structures alone.

THE HISTORY OF USE: CHANGING FUNCTIONS

With the addition of a peristyle-garden to both atrium houses of Philippus and Terentius Eudoxus, a shift in function of the old atrium house to the newly introduced Hellenistic garden must have been, at least partly, inevitable. Research by J.-A. Dickmann in Pompeii into the changes that took place in the transition phase from traditional atrium house to atrium-peristyle complex revealed that the original function of the peristyle as an *ambulatio*, a shady place to stroll around with guests or

friends, already started to change at the end of the 2nd and definitely in the 1st century BC, when the main living area of the house moved from its traditional position in the atrium to the peristyle.[69] This shift is clearly visible in the layout of many Pompeian houses, where the orientation of the tablinum and triclinia, situated in the zone between the atrium house and peristyle-garden, moved (as in the House of Terentius Eudoxus: the oecus left of the tablinum). Whereas before, these spaces where orientated towards the atrium, the openings on this side were now decreased or even closed-off. At the same time, the openings towards the peristyle-garden were widened and all the spaces around the garden were richly decorated in the latest fashion of floor and wall decorations.

One element of this new structure of the atrium-peristyle house that is discussed by Dickmann and A. Wallace-Hadrill, is the apparent lack of any serious attempt of spatial integration of the peristyle into the living area of the traditional town house and that rather, the two were placed next to each other as independent units. With the introduction of the peristyle, the symbolic function of the atrium changed. Positioned at the back of the visual axis that runs through the house, the peristyle, with its luscious appearance and bathing in sunlight, was visually more desirable than the roofed and rather dark atrium. Furthermore, the atrium, which had previously been the core of all social activity in the house, was reduced to an area of less privileged activity. In the new arrangement, the tablinum became the main access from the atrium to the peristyle and thereby seems to have transformed into a vestibule, for part of the day at least, when the folding door at the back of the tablinum was opened up.[70] The elite took clever advantage of the introduction of this foreign element into the indigenous private architecture. With the appropriation of this exotic feature, new social dynamics were created in the existing house structure. In a society where power was for a large part dependent on social standing, and where public life took place in the private sphere, the addition of a second living-area to the house was quickly used to its full advantage. It opened up new possibilities of differentiation within the house, ranging from the more public activities for the larger public (such as the *salutatio* in the atrium-alae-tablinum range) to more private affairs between the house owner and his peer group and inner circle. Dependent on what social group a visitor belonged to, certain areas of the house could or could not be entered.[71] This concludes the short summary of the current views on this topic, which was studied in depth by Wallace-Hadrill and Dickmann.[72]

Although the addition of the peristyle to the atrium house did indeed create new opportunities for further hierarchical differentiation within the house, I would prefer not to attribute the independent natures of the atrium and peristyle to a lack of spatial integration. On the contrary, a study of the design of Pompeian atrium houses reveals great spatial integration by the architect, of which the build-up of space along the visual axis of the House of Philippus (*figs. 18a-b*) is a clear example. It seems that one of the first priorities for the architect would have been to create certain spatial connections and through-routes between the atrium and peristyle. This, however, in no way contradicts the important social message that was sent to anyone entering the house, a message of highly differentiated areas within the atrium-peristyle sequence, some parts of which might be entered, while others remained exclusive. In fact, the strong spatial integration that is created by the architect's choice of certain measurements, focal points, visual lines and thresholds only serves to enhance this feeling of being drawn to something but not being able to reach it. The design of the house aims to reach spatial unity, while the users of that space manipulate it to create the desired hierarchy.

Continuing our search into the successive changes in function of these city residences throughout their history of use, we must also consider the fact that both peristyle-gardens of the Houses of Philippus and Terentius Eudoxus have been interpreted as having had a special, non-residential function. To start with the garden of the House of Philippus, Eschebach[73] has interpreted this part of the house as a doctor's clinic, both by the many finds of doctor's instruments throughout the garden and atrium house as well as by the particular layout and accessibility of these areas. The peristyle of the House of M. Terentius Eudoxus functioned as an industrial workplace for the production of wool, with a work force of at least seven men and eleven women (see note 24). Even though these interpretations, based on finds of certain professional artefacts and a graffito may very well provide a correct description of the functions of these spaces during their last phase of existence, the analysis of their design clearly reveals that the original function of these gardens was not based on professional activities, but served as an addition to the social functions of the atrium houses.

In the case of the House of Philippus, the

analysis of the peristyle-garden uncovers a carefully executed design, not just as far as its own layout and planning were concerned, but especially in relation to the design of the atrium house. In fact, the design of the garden is closely tied to that of the house, whereby the architect has obviously made an attempt and succeeded in creating an overall unity and sequence of spaces running from the atrium house through and into the peristyle-garden. This leads me to conclude that the original intention of the owner, when having the peristyle designed and built, was to use it as a place of entertainment and reception, an extension of his house as a reflection of his position in society. The presence of a large summer dining hall at the back of the peristyle, placed in one line with the central axis of view that was followed by the eye of any visitor upon entering the house (from the fauces through the atrium, the tablinum, the peristyle and all the way into the dining hall) supports this interpretation.

The same can be said for the peristyle-garden behind the House of M. Terentius Eudoxus, which, although there was not enough room for such a spacious design, also shows obvious characteristics in its design of having originally been intended as a 'show garden' for the reception of friends and relations. The lack of space was cleverly diverted by the architect by creating on one side, to the left of the peristyle, a leisure area, reached by the andron from within the house, adorned with an oecus and triclinium with a view onto the garden, and on the other side, to the right of the peristyle, a practical area with service rooms, reached by a side entrance from the street.

It seems correct to conclude that, even though the garden-areas of these twin atrium houses were, from a certain moment on, indeed used as professional workplaces, whether it be a doctor's clinic or a wool production centre, this was not what they had originally been intended for. When they were first constructed, great care was taken in designing these spaces as an addition to the atrium house, extending its public function of the reception of relations or friends. Why and when this primary function was partly or completely taken over by the use of these spaces for professional purposes is a question that must for now remain unanswered.

TRADITION VERSUS PRACTICALITY

A noteworthy element that I want to draw attention to is the fact that, despite the long history of use and many phases of changes - the most obvious of which are the transition from a traditional atrium house to an atrium-peristyle complex and then to an (industrial) workplace - the original layout of the atrium houses of Philippus and Terentius Eudoxus was never altered in such a way that the original design was compromised. During the entire history of use of over two centuries, the functions of the different spaces within the atrium houses must have changed at least in some ways. We may even imagine that it was desirable at some time, from a practical point of view on the use of space, to introduce structural changes to the layout of the house. However, the evidence of the built structures tells a different story, not only in the case of the two houses that are discussed in this article, but in many of the traditional Pompeian elite atrium houses dating back to the Samnite period. It appears that the highly ritualised model of the atrium house was consciously held onto by the people of Pompeii as part of their own heritage in an age, where, under the influence of Rome, new Hellenistic building elements were accepted in private architecture. The original form of the atrium house, guided by strict rules of design, was never given up, even when its function changed over time as the peristyle was incorporated into the house structure and took over some of the old functions of the atrium. This typical house form that was part of the heritage of the Pompeian elite seems to have carried in it such a heavy load of social codes and values that we may say that tradition prevailed over practice. I must thereby object to Dwyer's' statement that: 'Owners and architects in early imperial Pompeii were obliged to adapt architectural form to the quotidian rituals of wealthy Roman patrons: theory aside, practice prevailed.' (Dwyer 1991, 39). The Pompeian evidence clearly contradicts this statement, with many of the old atrium houses dating back to the pre-Roman period actually retaining their original form. In my opinion, the argument should be reversed: the original design of the elite Pompeian city dwellings is definitely based on theory. Within that existing house form, an extensive canon of rituals grew over the generations and became an integral part of the atrium house architecture, the two being intrinsically connected, thereby rendering major adaptations to suit the Roman patrons unnecessary.

POSITION AND PRETENCE: THE LOCAL CONTEXT

Up to this point we have been concerned primarily with internal aspects of the building plot and of the houses. Now we need to widen our

viewpoint to reconstruct the meaning of this building project in Pompeii placed in the context of its location within the city. The apparent uniqueness of this project lies in the fact that we are dealing here with 'identical twins', one design executed in duplicate as a mirrored image, which leads to the notion that the owners of the House of Philippus and the House of M. Terentius Eudoxus must have been closely related, possibly family members. This does not, however, offer a full explanation for the extraordinary situation that we are dealing with and it seems likely that placing this building project within the context of its direct surroundings could create new insights.

One element that cannot be underestimated is the direct proximity of the largest and most conspicuous house in the whole of Pompeii, the House of the Faun (VI 12, 2-5), neighbour to the Houses of Philippus and Terentius Eudoxus on the left (west) side and taking up the entire insula VI 12. This is not the only large elite residence that is located closely to our two houses, with the House of Ariadne (VII 4, 51) and the House of the Figured Capitals (VII 4, 57) across the street, and the House of the Labyrinth (VI 11, 8-10) and the House of the Vettii (VI 15, 1) situated in the insulae immediately at the back (*fig. 2*). As has been stressed time and again by modern scholars studying the social life of Pompeii, the home of the members of the elite fulfilled not only a private function, but was also the locus of public life. By surrounding himself with a large group of clients that would call at his house during the morning *salutatio*, the *paterfamilias* of a large town house could strengthen his political position within the community. The location of his house on a major road, a highly visible location, ensured that a large number of passers-by would be impressed by the façade of his house.[74] Furthermore, as the doors to these grand houses were left open for at least part of the day, the view into the house was also of great importance. In other words, the house of an elite member of Pompeian society played an active role in expressing his social status and ambitions. On the location of elite residences within the city, Robinson remarks that 'for the Pompeian elite the location of their domus was not just a Ciceronian exercise in self promotion: it was not enough to locate one's house in a prominent position, it also had to be sufficiently distanced from other houses to avoid being outshone by the grandeur of potential social rivals.'[75] However, if we consider this remark in relation to the atrium-peristyle elite residences such as those situated in the insulae VI 11, VI 15, VI 12, VI 13 and VII 4, we must conclude that these houses are actually clustered together in rather a small area of the city. And although these houses may not belong to the absolute top of the bill in residential complexes such as, for example, the House of the Faun or the House of the Centenary, they most likely do belong to the group of politically active elite members of Pompeian society that Robinson is referring to. It seems that positioning a house in a prominent position within the city to get the most attention and at the same time being in close proximity to others who are trying to accomplish the same, are two elements of Pompeian life that go hand in hand. It is actually quite understandable that a highly visible position within the city's road network would see a clustering of elite houses belonging to politically active members of society who all aim at the same goal, the gathering of a group of dependants and the winning of election votes.

If the house of a member of the elite was indeed located nearby comparable houses of the same social class, this must have created the necessity for competition between house owners, who, in the design of their house would need to ensure that it put them in the best possible light and created an image that would somehow attract particular attention. This competitive element that formed an integral part of Pompeian society was, to my opinion, of great importance in the specific case of the Houses of Philippus and Terentius Eudoxus. Obviously, their position right off the Forum on a busy spot with other large properties in close proximity, and specifically next to one of the most impressive houses in the entire city posed somewhat of a problem in the light of the social structures described above. It would have been impossible for any smaller house owner to still attract some attention next to the overwhelming grandeur of a neighbouring residence such as the House of the Faun, portraying such opulent luxury, wealth and power.[76] Could it therefore not have been a highly resourceful and clever move to share costs with a close relative, buy the better half of an entire insula along one of the busiest roads and construct two identical houses based on one design? We may imagine that, if the House of the Faun was already present at the time when the 'twins' were built, or constructed in the same period, when the Via della Fortuna was first formalized in the early 2nd century BC, the owners of the Houses of Philippus and of Terentius Eudoxus would have aimed to give the impression that they were to be considered worthy adversaries of their neighbour. In fact, the picture becomes more clear if we again compare the metrology of the two neighbouring

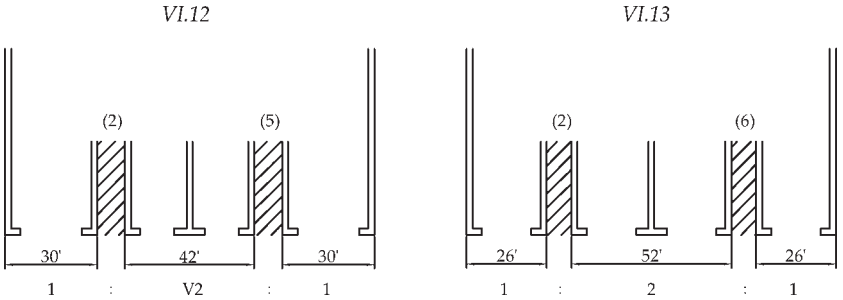


Fig. 25a.
Insulae VI 12 and VI 13: articulation of the façades: schematic design (drawing author).

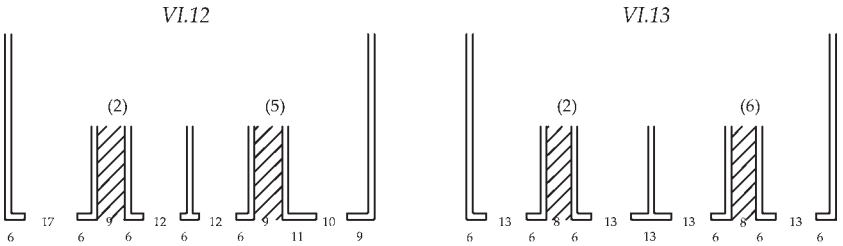


Fig. 25b.
Insulae VI 12 and VI 13: articulation of the façades: real measures (drawing author).

structures. On the general measures of the original plot of the House of the Faun (consisting of a double atrium and only the first peristyle) and of the original 'twin' plot of the Houses of Philippus and of Terentius Eudoxus, A. Schoonhoven already recognises and draws attention to the fact that the original divisory line in VI 13 at the back of the peristyle of the House of Philippus at a distance of 170′ from the south façade is identical to the length of the original building structure of the House of the Faun.[77] Both measures of 170′ are present in the west facades of the adjacent insulae VI 12 and VI 13. Also, the architectural bi-partition of the façade of insula VI 13 into two equal parts of 60′ is identical to that along the façade of the Faun.[78] Schoonhoven's study focussed on the metrological analysis on the level of the plot division within the insulae. In this study, however, we can take a step further in the detail in which we analyse these urban structures. By measuring and comparing the dynamics in the build-up of the façades of the House of the Faun and of the Houses of Philippus and of Terentius Eudoxus we can further complete the picture that already emerges from Schoonhoven's analysis. The south façade of insula VI 13 (Philippus and Terentius Eudoxus) actually portrays the same dynamics in the articulation of space as that of its neighbour insula VI 12 (Faun). Both façades are built-up in the same way with a total of four shops, open to the street and two fauces, situated between the first and the second shop and again between the third and the fourth shop, leading to the atria behind (*fig. 10*). By taking the exact measurements of the different elements within these two façades, the metrological plan that lies at the base of the built structures could be recognised and the internal dynamics compared (*fig. 25a-b*).[79]

The fact that the individual measurements[80] of the façades of the House of the Faun and of the Houses of Philippus and Terentius Eudoxus are not exactly the same is immediately apparent. This can, however, be easily explained if we take into consideration the fact that the House of the Faun needed to portray a clear distinction between its primary and secondary atrium, the first having a much wider entrance from the street, whereas the Houses of Philippus and Terentius Eudoxus were completely symmetrical, not only in internal layout but also in their dynamics along the façade. However, if we move to the larger picture of the façade as a whole and take into consideration its total build-up, these two insulae do show a striking similarity. Both façades are built-up into three areas, which are intersected by the fauces leading to the two atria behind. Two of the three areas consist of the far left and right sides of the façades, comprising the opening to the outer shops and the walls left and right of that opening.

House of the Faun:
On the left side: 6½′ + 17′ + 6½′ = 30′
On the right side: 11′ + 10′ + 9′ = 30′

Houses of Philippus and Terentius Eudoxus:
On the left side: 6½′ + 13′ + 6½′ = 26′
On the right side: 6½′ + 13′ + 6½′ = 26′

The third area is formed by the space in between the two fauces leading to the atria behind.

In the House of the Faun, this area measures:
6′ + 12′ + 6′ + 12′ + 6′ = 42′
In the Houses of Philippus and Terentius Eudoxus, this area measures:
6½′ + 13′ + 13′ + 13′ + 6½′ = 52′

If we then regard each individual façade and relate these three different areas, separated from each other by conspicuous openings that form the entrances to the houses behind, to each other, the following picture emerges:
House of the Faun:
30′ : 42′ : 30′ = 1 : √2 : 1
Houses of Philippus and Terentius Eudoxus:
26′ : 52′ : 26′ = 1 : 2 : 1

What this metrological analysis of the two façades, positioned next to each other along the Via della Fortuna, shows is the fact that they are both built up in two areas of equal measurements on the outer left and outer right side of the façade, which are related either rationally or geometrically to the middle section. The idea behind the overall build-up of these two consecutive façades is based on the same principle of three sections, of which the outer two are identical and which are both related to the middle section.

Considering the fact that the building of the House of Philippus and the House of Terentius

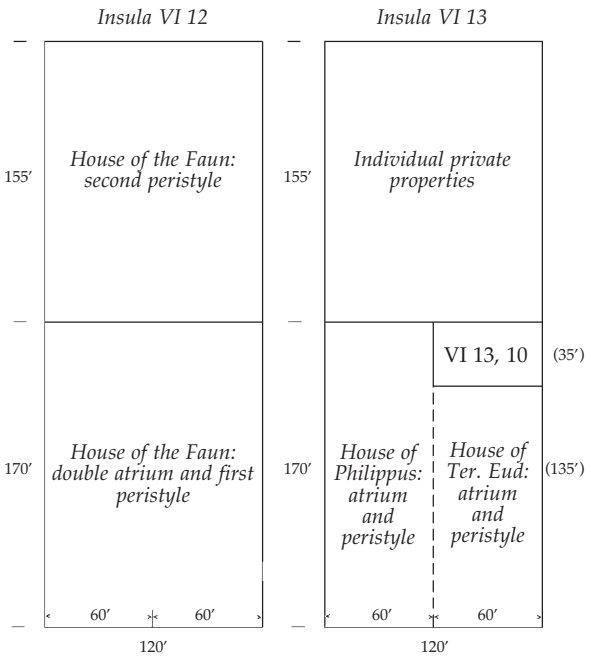


Fig. 26. Insulae VI 12 and VI 13: situation of AD 79 (drawing author).

Eudoxus took place in one project, we may also imagine that the entire south façade of the insula was covered with one coherent layer of stucco decoration, now unfortunately no longer visible.

Comparing the situation in insulae VI 12 and VI 13 at the time of the first construction of the House of the Faun and of the Houses of Philippus and Terentius Eudoxus, the following picture emerges (*fig. 26*).

In both insulae, an area of 120′ x 170′ on the south façade facing the Via della Fortuna was purchased and used for a single building project, be it for the construction of a double atrium house with a peristyle-garden or for the construction of two 'twin' atrium houses with an undetermined area at the back. The remaining area for the construction of smaller properties in the northern part of both insulae measured 120′ x 155′.[81] For the large private properties along the Via della Fortuna, much of the impression they made on passers-by was determined by their facades, taking up the entire width of the insulae and dividing it into two equal parts of 60′. With the original façade of the House of the Faun (VI 12) likely to have been constructed in *opus quadratum* limestone, identical to that of VI 13, the two neighbouring properties must have portrayed a similar 'look and feel' to those passing by. That way, the pretence of the presence of one large property behind the façade instead of the two independent houses that were actually present may have been quite convincing. This need not to be outdone by your neighbour can best be illustrated by the following passage by Cicero (*de Legibus* 3.30):[82]

> 'Our friend, Lucius Lucullus, that great man, made what passed as a very neat reply to criticisms of the magnificence of his Tuscan villa: he had two neighbours, uphill an eques Romanus, downhill a freedman; considering that they had magnificent villas, he ought to be allowed what others of lower rank got away with.'

Over time, however, the owner of the House of the Faun succeeded in setting himself apart beyond any doubt from all those surrounding him. He added further opulence to his house and thereby enhanced his personal status display, by replacing the old façade by a new one in tuff, in AD 79 still one of the most impressive house fronts in the city, and by taking over the entire insula to the back with the addition of a second and even larger peristyle. Even though the Houses of Philippus and Terentius Eudoxus were also further embellished and extended by the addition of a peristyle-garden, what may have initially been their attempt to compete with their neighbour soon ended, as

they were and remained part of a different social class than the man that could afford to live the life of luxury that was embodied by the House of the Faun.

And so it seems that the location of the House of Philippus and the House of M. Terentius Eudoxus within the city of Pompeii may actually be the key to understanding somewhat more of the reasons behind this extraordinary 'twin' building project. It appears that we are dealing with two members of Pompeian society that must have belonged to the elite, but were definitely in a different league than the owner of the House of the Faun. They could never have outdone the immeasurable grandeur of that house on their own, but could, by teaming up and making the most of the situation at least make a decent attempt in marking their own status right under the wings of a giant. However, even without the presence of the House of the Faun, the prominent position of the Houses of Philippus and of M. Terentius Eudoxus, with a number of other elite residences at close range, would in itself command the presence of a certain social standing and ambitious pretence in their design and construction.

NOTES

1 These two atrium houses are part of a total database of twenty such houses with a peristyle-garden in Pompeii that I have selected as the subject for my PhD-research, which is funded by NWO, the Dutch Organization for Scientific Research. The field data, including detailed measurements by GIS as well as by tape measurements and descriptions of the building techniques and materials used in the construction of each individual house, have been collected by the members of RUSPA (Ricerche Urbanistiche su Pompei Antica), a Dutch research team directed by H. Geertman. Between 1989-1997 this project worked from the University of Leiden, The Netherlands and between 1998-2002 from the Istituto Olandese in Rome. The members of staff are: H. Geertman, H. Knikman, C. Saliou, A. Schoonhoven, N. Rabouw and N. van Krimpen-Winckel.

2 Maiuri 1952, 6-7.

3 Such as his dating of the Casa del Chirurgo to the 4th or 3rd centuries BC (Maiuri 1973, 1-15).

4 The scarce excavations that have been conducted in some of these atrium houses, such as in the House of Joseph II and the House of the wedding of Hercules by Paolo Carafa, seem to indicate construction in the 2nd century BC (Carafa 1997, 17-22).

5 I use the term 'neighbourhood' here loosely to indicate and describe the area that directly surrounds the Houses of Philippus and Terentius Eudoxus. The use of the term can therefore not be compared to that of Laurence's study (1994, 38-50), who makes a detailed reconstruction of the localised neighbourhoods in Pompeii by making a distribution map of the public fountains and shrines.

6 Excavations in this house, constructed in the first half of the 2nd century BC, revealed an earlier building of the late 4th or early 3rd century BC. This older building did not follow the line of the Via della Fortuna, whereas the younger building did. This suggests that the Via della Fortuna was only formalized in the early 2nd century BC (D'Ambrosio/De Caro 1989).

7 *PPM V, parte seconda*, 142-143.

8 Della Corte 1954, 97.

9 This is by no means to suggest that Philippus was owner of this house, especially not in its first phase of construction and occupation. The same goes for house VI 13, 6, which will be discussed in the following section and will be referred to as the House of M. Terentius Eudoxus, solely as a name given to it by the excavators.

10 Cf. Presuhn 1882, Abt. VI, 4: '*Immer ist M. Terentius Eudoxus der einzige, der seinen Freunden zu essen gibt, sie bei sich behält, sie beschützt und in jeder Weise unterstützt*'; the name of the house is also explained by Della Corte 1954, 97-98 nr. 185, who cites the same eulogy and also mentions that the first name of the owner was written in graffito on a column in the peristyle: MAPKOC.

11 Presuhn 1882, Abt. VI, 4.

12 Presuhn 1882, Abt. VI, 4.

13 Laidlaw 1985, 207.

14 *PPM V, parte seconda*, 143.

15 The summary of finds is based on Eschebach 1984, 44-45. Known finds include: 15 *tasti* (probes), 1 *astuccio* (cooker for doctor's instruments), 2 pairs of tweezers, 2 hooked probes, 3 *strigiles* (skin scrapers), 1 ointment jar, 2 ink bottles, 1 compass.

16 Fiorelli 1862. *Pompeianorum antiquitatum historia*, 353; *Addenda*, 136; Ibidem, 349; *Addenda*, 133; Ibidem, 368; *Addenda*, 150.

17 Eschebach 1984, 42.

18 Presuhn 1882, Abt. VI, 3.

19 *PPM V, parte seconda*, 158.

20 *PPM V, parte seconda*, 158.

21 *PPM V, parte seconda*, 158.

22 Mau 1882, 86; Laidlaw 1985, 207-208.

23 *PPM V, parte seconda*, 158-159.

24 These names are cited in Della Corte 1954, 89 nr. 185 a-r. See also Eschebach 1970, 204-205; Jongman 1988, 163; Jashemski 1993, 198.

25 *PPM V, parte seconda*, 158-159.

26 *PPM V, parte seconda*, 158.

27 i.e. Evans 1980, 2: in summing up which houses are excluded from her research, Evans mentions '...examples where at a later period a second atrium house has been added to the one studied without causing modifications to either (e.g. VI 13, 2 which was added to VI 13, 6 Domus M. Terentii Eudoxi)'.

28 The detailed measures of the House of Philippus and the House of M. Terentius Eudoxus were taken by the author during the field campaigns of the Pompeii project of the University of Leiden (see note 1).

29 Nissen 1877, 88-97.

30 Peterse 1984, 10.

31 Peterse 1984, 16-20.

32 Geertman 1989, 161.

33 In this formula, a, b and c stand for the measurements expressed in centimetres and x, y and z stand for the ideal value of the same measurements, converted to Oscan feet by Nissen's value of 27.50 cm. For example: the length of the atrium of the Casa dei Vettii measures 1104 cm, which equals 40.15' when divided by 27.50 cm. The ideal measure of the length of the atrium in

Oscan feet can be reconstructed as 40′; the width of the atrium of the Casa dei Vettii measures 832 cm, which equals 30.25′ when divided by 27.50 cm. The ideal measure of the width of the atrium can be reconstructed as 30′. The arithmetic average of the Oscan foot in this case measures: $\sqrt{(110^2 + 83^2)} / \sqrt{(40^2 + 30^2)} = 27.64$ cm. The values used in the equation are squared, in order to reduce the influence of the higher margin of error in the measurement of the shorter distances.

34 The principal measurements of the atrium house are: the width and depth of the plot; the internal width and depth of the house; the measurements of the fauces, atrium and tablinum; the depth of the spaces on either side of the atrium; the width of the alae; the tripartite division of space within the atrium by the position of the impluvium. The principal measurements of the peristyle-garden are: the width and depth of the garden-area; the width and depth of the colonnade; the depth of the ambulatories; the measurements of spaces alongside the peristyle-garden that belong to its original building phase.

35 In some cases, older walls that were damaged or destroyed in ancient times, were reconstructed in the same position, but using younger building materials. In those cases, the metrological analysis of the design can give a definite answer to the question whether or not a wall was part of the original construction.

36 *De architectura* 7, pr. 10-18.

37 Geertman 1993, 244; 1997, 22.

38 Geertman 1994, 22; 1997, 19; see also Schoonhoven 2003, 16-17.

39 Geertman 1994, 22; 1997, 19; see also Schoonhoven 2003, 16.

40 De architectura, 6.2.1.

41 Geertman 1994, 23-24; 1997, 20.

42 Peterse 1984, 9-30.

43 These houses are: Casa di Sallustius (VI 2, 4); Casa dei Vettii (VI 15, 1); Casa delle Nozze d'Argento (V 2, i); Casa di M. Obellius Firmus (IX 14, 4); Casa dei Cei (I 6, 15).

44 See note 29.

45 Peterse 1985, 35-56.

46 Peterse 1991, 71-85.

47 Geertman 1984a, 31-52.

48 Geertman 1984a, 32.

49 Geertman 1989, after Rakob 1973.

50 Geertman 1984a, 33.

51 The arithmetic approximations that were used in antique architecture belonged to a sequence that was known in Pythagorean and later antique mathematics as the arithmetic expression of geometric proportions. A well-known example is the Pythagorean sequence, transmitted by Theon of Smyrna (early 2nd century AD), which reflects the proportions $1 : \sqrt{2} : 2$. These values represent the side of a square, the diagonal of that square and double the side of that square. Theon of Smyrna's sequence of arithmetic approximations of this geometric proportion can be expressed as follows: $1 : \sqrt{2} : 2 = 1 : 1 : 2 = 2 : 3 : 4 = 5 : 7 : 10 = 12 : 17 : 24 = 29 : 41 : 58$ and so on (Frey 1990, 289-292; Geertman 1993, 235).

52 Geertman 1989; 1993.

53 Geertman 1993, 235, 239.

54 This sharp contrast is made by Wilson-Jones (2000, 2; 50), who also warns us that 'overblowing the contrast between arithmetic and geometry is a modern, post-renaissance, preoccupation that was not part of ancient architectural practice'. The same concept of unity between geometry and arithmetic is stated by Geertman (1993, 239): 'Più che una geometria espressa aritmeticamente questa è infatti una progettistica architettonica basata contemporaneamente sulla geometria e sulle caratteristiche aritmetiche dei vigenti sistemi numerici (decimale, dodecimale, sedicesimale). Tale combinazione conferisce al sistema un eccezionale flessibilità.'

55 Geertman 1989, 163; 1993, 245.

56 See also Wilson-Jones 2000, 87.

57 Geertman 1984a, 52.

58 The meaning of these measures of the plot that was used for the construction of these two houses and their relation to the measures of the larger plot that was purchased from the municipal administration will be discussed in detail.

59 See note 20 above.

60 The calculation of the standard foot measure of 27.53 cm used by the builders when the Houses of Philippus and Terentius Eudoxus were constructed was based on the following principal measures (for the method of calculation see note 33; for the detailed measures and their converted values see tables 1 and 3): House of Philippus: atrium width: 862 cm = 31.3′ (ideal measure 31.5′); atrium depth: 1254 cm = 45.5′ (ideal measure 45.5′); tablinum depth: 575 cm = 20.9′ (ideal measure 21′); cubiculum depth: 345 cm = 12.5′ (ideal measure 12.5′). House of Terentius Eudoxus: atrium width: 867 cm = 31.5′ (ideal measure 31.5′); atrium depth: 1256 cm = 45.6′ (ideal measure 45.5′); tablinum depth: 571 cm = 20.8′ (ideal measure 21′); cubiculum depth: 347 cm = 12.6′ (ideal measure 12.5′). The fact that the independent calculations of the used foot measure in each house both result in an identical standard measure of 27.53 cm is a further indication of the fact that we are dealing with a single building project, most likely executed by one building company.

61 The architect of these houses worked with an approximation of the geometric proportion of $1 : \sqrt{2}$ of 16 : 23. With this choice, he preferred to work with a system of fingers (16 fingers to a foot) rather than thumbs (12 thumbs to a foot). Clearly, we are dealing with an architect who knew his profession and could make the most advantage of the practical circumstances that he was confronted with. In this case, a plot of 60′ in width that was well fitted for a design of 32′ + 14′ + 14′. Working with fingers creates a different series of approximations for the Pythagorean sequence of $1 : \sqrt{2} : 2$ than working with thumbs:
Working with thumbs: 12 (1) : 17 ($\sqrt{2}$) : 24 (2)
Working with fingers: 16 (1) : 23 ($\sqrt{2}$) : 32 (2)
The fact that both systems were used in ancient practice is clear by the finds of Roman measuring tools displaying both systems next to each other (for an example see Ciarallo/De Carolis 1999, nr. 380).

62 Peterse 1991, 77.

63 The calculation of the standard foot measure of 27.58 cm used when the peristyle-garden of the House of Philippus was constructed, was based on the following principal measures (for the method of calculation see note 33; for detailed measures and their converted values see table 2): width of the colonnade: 444 cm = 16′ (ideal measure 16′); average depth of the colonnade: 937.5 cm = 34′ (ideal measure 34′); width of the peristyle-garden: 854.5 = 31′ (ideal measure 31′).

64 As related by Vitruvius, 6.8.9-10.

65 The calculation of the standard foot measure of 27.70 cm used when the peristyle-garden of the House of Terentius Eudoxus was constructed, was based on the follow-

ing principal measures (for the method of calculation see note 33; for detailed measures and their converted values see table 4): width of the colonnade: 750 cm = 27.2′ (ideal measure 27′); depth of the colonnade: 1011 cm = 36.5′ (ideal measure 36.5′); depth of the peristyle-garden: 1398 cm = 50.5′ (ideal measure 50.5′).

66 This architectural phenomenon is also present in the House of Menander, where it was recognised by Bek, who noticed that the space between the columns at the far end of the peristyle is less than that between those at the near end, thereby exaggerating the peristyle's depth (Bek 1980, 168-170; also in Clarke 1991, 14).

67 Wilson Jones 2000, 49.

68 The term 'cadastre' is used here in accordance with its definition by A. Schoonhoven, as a high level of urban organisation that ensured that the socio-political values of the urban society were reflected in the spatial arrangement of the city; the original plot division of an insula was executed in such a way that it suited the municipal authorities as well as the potential buyers (Schoonhoven 2003, 40).

69 Dickmann 1997, 121-136.

70 Wallace-Hadrill 1997, 239; Dickmann 1997, 132.

71 Discussed in detail by Wallace-Hadrill 1994, 12; also Zanker 1998, 13.

72 Wallace-Hadrill 1994, 1997; Dickmann 1997.

73 Eschebach 1984, 42.

74 Robinson 1997, 142.

75 Robinson 1997, 143.

76 The construction of the House of the Faun, consisting in its first phase of a double atrium house and only the first peristyle at the back, has been dated to the beginning of the 2nd century BC (*PPM V*, *parte seconda*, 80-83). We may therefore assume that this house was constructed just before or possibly at the same time as the Houses of Philippus and Terentius Eudoxus.

77 Schoonhoven 2003, 177-186.

78 The façade of the House of the Faun was originally probably also constructed in *opus quadratum* limestone, identical to VI 13. It was only later replaced by a new façade in tuff, which can be presumed to follow the original dynamics of the limestone façade that was an integral part of the total design.

79 I would like to thank Nathalie Aalbers for her assistance in measuring the façades of insulae VI 12 and VI 13.

80 The foot measures presented here are the ideal measurements of the planned layout of the façades. In the case of the House of the Faun, these were executed rather accurately in the field. The façade of the Houses of Philippus and Terentius Eudoxus shows some anomalies in the actual construction, caused by the fact that the length of the façade was somewhat shorter (118½′) than the ideal measure of 120′.

81 Excavations in the second peristyle of the House of the Faun show traces of earlier building activity in this part of the insula, tentatively dated to the 3rd century BC but never fully reported: Schoonhoven 2003, 170. See Hoffmann 1986, 493-495; Bruckner 1975, 205-209.

82 Translation by Wallace Hadrill 1994, 143.

BIBLIOGRAPHY

Allison, P.M. 2001, Using the Material and Written Sources: turn of the Millennium Approaches in Roman Domestic Space, *AJA* 105, 181-208.

Bek, L. 1980, Towards paradise on earth: modern space conception in architecture: a creation of renaissance humanism, *AnalRom*, 9, 168-170.

Bruckner, A. 1975, Zu der Keramik aus der Casa del Fauno, in B. Andreae/H. Kyrieleis (eds.), *Neue Forschungen in Pompeji*, Recklinghausen, 205-209.

Carafa, P. 1997, What was Pompeii before 200 BC? Excavations in the House of Joseph II, in the Triangular Forum and in the House of the Wedding of Hercules, in S.E. Bon/R. Jones (eds.), *Sequence and Space in Pompeii*, Exeter, 13-32.

Ciarallo, A./E. De Carolis (eds.) 1999, *Homo Faber: natura, scienza e tecnica dell'antica Pompei*, Napels.

Clarke, J.R. 1991, *The Houses of Roman Italy 100 BC-AD 250: ritual, space and decoration*, Berkeley.

D'Ambrosio, A./S. De Caro 1989, Un contributo all'architettura nella casa VII 4, 62, *AION* 2, 139-180.

Della Corte, M. 1954, *Case ed abitanti di Pompei*, Naples[3].

Dickmann, J.-A. 1997, The peristyle and the transformation of domestic space in the Roman world, in R. Laurence/A. Wallace-Hadrill (eds.), *Domestic Space in the Roman World: Pompeii and beyond*, JRA Supplementary series 22, Portsmouth, RI, 121-137.

Eschebach, H. 1970, *Die städtebauliche Entwicklung des antiken Pompeji*, Heidelberg.

Eschebach, H. 1984, Die Artzhäuser in Pompeji, *Antike Welt Sondernummer*, 41-45.

Evans, E.M. 1980, *The Atrium Complex in the Houses of Pompeii*, PhD, University of Birmingham.

Fiorelli, G. 1862, *Pompeianarum Antiquitatum Historia*, Naples.

Frey, L. 1990, Mediétés et approximations chez Vitruve, *RA*, 285-330.

Geertman, H. 1984a, Geometria e aritmetica in alcune case ad atrio pompeiane, *BABesch* 59, 31-52.

Geertman, H. 1984b, Vitruvio e i rapporti numerici, *BABesch* 59, 53-62.

Geertman, H. 1989, La progettazione architettonica in templi tardo-repubblicani e nel *De architectura*: componenti italiche e ellenistiche, in H. Geertman/J. de Jong (eds.), *Munus non ingratum.* Proceedings of the International Symposium on Vitruvius' *De architectura* and the Hellenistic and Republican architecture, Leiden 20-23 January 1987, Leiden, 154-177.

Geertman, H. 1993, Vitruvio, la realtà architettonica e la progettazione di porte templari, *BABesch* 68, 209-245.

Geertman, H. 1994, Teoria e attualità della progettistica di Vitruvio, in P. Gros (ed.), *Le projet de Vitruve: objet, destinataires et reception du "De architectura"*. Actes du colloque international organisé par l'École française de Rome, l'institut de recherche sur l'architecture antique du CNRS et la Scuola normale superiore de Pise, Rome 26-27 mars 1993, Rome, 7-30.

Geertman, H. 1997, De architectura als archeologische bron: tekst en context van Vitruvius' theorie en praktijk, in R. Rolf (ed.), *Vitruviuscongres (Heerlen 13-15 oktober; Maastricht 25 oktober 1995)*, Heerlen, 17-24.

Hoffman, A. 1986, in V. Kockel, Archäologische Funde und Forschungen in den Vesuvstädten II, *AA*, 493-495.

Jashemski, W.F. 1993, *The gardens of Pompeii, Herculaneum and the villas destroyed by Vesuvius* II, New York.

Jongman, W. 1988, *The economy and society of Pompeii*, Amsterdam.

Laidlaw, A. 1985, T*he First Style in Pompeii: Painting and Architecture*, Rome.

Laurence, R. 1994, *Roman Pompeii: space and society*, London/New York.

Maiuri, A. 1951, *La casa a Pompei*, Naples.

Maiuri, A. 1973, *Alla ricerca di Pompei preromana*, Naples.
Mau, A. 1882, *Geschichte der decorativen Wandmalerei in Pompeji*, Berlin.
Nissen, H. 1877, *Pompejanische Studien zur Städtekunde des Altertums*, Leipzig.
Peterse, C.L.J. 1984, Der oskische Fuß in pompejanischen Atrien, *BABesch* 59, 9-30.
Peterse, C.L.J. 1985, Notes on the design of the house of Pansa (VI,6,1) in Pompeii, *MededRom* 46, 35-55.
Peterse, C.L.J. 1991, Bauentwurf und Mass-systeme, in V.M. Strocka, *Casa del Labirinto (VI.11.8-10)*, Häuser in Pompeji, 4, Munich, 71-85.
Peterse, C.L.J. 1993, *Bouwkundige studies van huizen in Pompeii: muurwerk, maatvoering en ontwerp*, PhD, University of Nijmegen.
Peterse, C.L.J. 1997, Vitruvius en Pompeii, in R. Rolf (ed.), *Vitruviuscongres (Heerlen 13-15 oktober; Maastricht 25 oktober 1995)*, Heerlen, 39-41.
Pompei. Pitture e mosaici 1994, V, Rome.
Presuhn, E. 1882, *Pompeji: die neuesten Ausgrabungen von 1874 bis 1881: für Kunst- und Alterthumsfreunde*, Leipzig.
Rakob, F./W.D. Heilmeyer 1973, *Der Rundtempel am Tiber in Rom*, Mainz am Rhein.
Robinson, D. J. 1997, The social texture of Pompeii, in S.E. Bon/R. Jones, *Sequence and Space in Pompeii*, Exeter, 135-144.
Schoonhoven, A.V. 2003, *Metrology and Meaning in Pompeii: the urban arrangement of Regio VI*, PhD, University of Leiden.
Wallace-Hadrill, A. 1994, *Houses and society in Pompeii and Herculaneum*, Princeton.
Wallace-Hadrill, A. 1997, Rethinking the Roman atrium house, in R. Laurence/A. Wallace-Hadrill (eds.), *Domestic Space in the Roman World: Pompeii and beyond* (JRA, Supplementary series 22), Portsmouth, RI, 219-240.
Wilson Jones, M. 2000, *Principles of Roman Architecture*, New Haven.
Zanker, P. 1998, *Pompeii, Public and Private Life*, Cambridge.

UNIVERSITY OF LEIDEN
FACULTY OF ARCHAEOLOGY
REUVENSPLAATS 4
NL-2300 RA LEIDEN

BABesch 81 (2006, 169-184. doi: 10.2143/BAB.81.0.2014427)

Sul problema di come datare le catacombe ebraiche di Roma

Leonard V. Rutgers, Klaas van der Borg, Arie F.M. de Jong e Arnold Provoost

Abstract

Dating catacombs precisely is an issue that has not been resolved satisfactorily until now. In this article we propose an entirely new way of tackling this issue, namely through radiocarbon dating. In addition to presenting the final results of our efforts, we also explore some of the interpretational difficulties that beset a proper evalution of the data. We conclude that this new approach has far reaching ramifications for the study of both the Jewish and the early Christian catacombs of Rome.[1]

INTRODUZIONE

Di tutte le questioni di cui si sono occupati gli studiosi della Roma sotterranea, quella di come datare una catacomba è fra le più ricorrenti, non solo per la sua importanza archeologica e storiografica, ma anche per motivi di metodologia e di epistemologia.[2]

Il problema che affronta lo studioso delle catacombe è ben noto: la spesso totale assenza di una stratigrafia orizzontale regolare che, in quasi ogni altro tipo di scavo archeologico, costituisce non solo il punto di partenza ma anche il mezzo di controllo durante e dopo lo scavo. Nel caso di tante catacombe romane, specialmente quelle scavate nel Novecento o prima, l'unico modo di studiare la cronologia è tramite un'analisi delle gallerie e della loro topografia. In quei casi, con l'aiuto delle tracce lasciate dagli antichi fossori sulle pareti tufacee dei cunicoli, la storia di un monumento viene ricostruita in un modo evolutivo, come un insieme di gallerie interconnesse, offrendoci la possibilità di percepire le cronologie di una catacomba come un complesso di cronologie relative. Ed è proprio questa caratteristica, o ancora meglio, la conseguente problematica di come trasformare queste cronologie relative in cronologie assolute, che sta al centro del dibattito sul 'come datare una catacomba'.

Tale problematica emerge, più che altro, dalla mancanza di materiale archeologico utilizzabile. È vero che migliaia di reperti archeologici sono sopravvissuti nel tempo grazie alla loro ubicazione nelle gallerie sotterranee delle catacombe, ma la loro rilevanza per una cronologia assoluta e precisa delle gallerie in cui si trovano è limitata perché in maggioranza essi sono stati rinvenuti lontani dalla giacitura originaria. Anche se questi materiali possono offrire un indizio generale, rimane spesso molto difficile essere più precisi, perché non siamo in grado di determinare quando e come sia avvenuto il processo della loro rimozione dal loro contesto archeologico originale.

Di quei pochi che restano tuttora in situ, solo pochissimi ci forniscono date precise. Mentre le iscrizioni datate costituiscono l'eccezione piuttosto che la regola, monete identificabili o bolli laterizi - questi ultimi spesso se non sempre impressi su tegole reimpiegate - hanno un valore molto più ridotto come indicatori cronologici (*fig. 1*). Questi ultimi, infatti, possono solo servire in modo molto generale e parziale come base per la determinazione di un *terminus post quem*.[3] Quello

Fig. 1. Tegola con bollo e rappresentazione del candelabro a sette braccia, dalla catacomba ebraica di Monteverde (Musei Vaticani).

che resta sono, dunque, gli altri reperti *in situ* che non portano una data e che possono essere fissati cronologicamente solo in base a criteri più generali, come considerazioni stilistiche e tipologiche nel caso delle pitture, dei sarcofagi e della ceramica, o considerazioni paleografiche e linguistiche nel caso delle iscrizioni.[4]

È importante sottolineare subito che considerazioni di tipo stilistico rischiano di creare spesso più problemi che risolverli. La 'antica' fiducia in questo metodo di datare sta chiaramente sparendo, persino nel paese che ospita i rappresentanti più ortodossi di questo metodo.[5] La problematica delle analisi stilistiche si manifesta particolarmente nel campo della pittura tardoantica, la cui cronologia è spesso oggetto di grandi controversie, come dimostrano chiaramente, per darne un solo esempio, le molteplici contraddizioni tra le proposte per datazione utilmente raccolte da J.G. Deckers ed i suoi collaboratori nel corso della loro documentazione delle pitture nelle catacombe di Marcellino e Pietro, Via Anapo, e Commodilla.[6] Queste proposte stanno alla base di un dibattito complesso che, come ha sottolineato F. Bisconti, 'sembra essersi incanalato in un percorso circolare e «vizioso»'.[7]

Anche se, di recente, le indagini eccellenti di N. Zimmermann non solo a Roma, ma pure ad Efeso, dove le sue ricerche sulle maestranze locali hanno fatto crollare tutto ciò che pensavamo di sapere una volta sulla storia della pittura tardoantica nelle provincie romane, ora danno una prova convincente che un'analisi stilistica dettagliata può produrre risultati validi per ricostruire la relazione tra le stesse maestranze e così fornirci nuovi ed importanti spunti per capire meglio sviluppi topografici, neppure questo utile approccio può darci quello di cui abbiamo più bisogno: una datazione assoluta, maggiormente sicura e controllabile.[8]

Cercando di trovare una soluzione nuova a questo vecchio problema, abbiamo deciso di affrontare la questione di come datare in modo assoluto il materiale archeologico dalle catacombe ebraiche di Roma in un modo diverso (*fig.* 2). Qui presentiamo i primi risultati, insieme ad un'analisi delle varie domande e dei problemi interpretativi che accompagnano questo nuovo metodo. Anche se sviluppato nel contesto di un sopralluogo fatto nelle due catacombe ebraiche di Villa Torlonia sulla Via Nomentana, crediamo che questo metodo possa avere una rilevanza che vada oltre queste catacombe.

Fig. 2. Arcosolio dipinto, galleria A2, catacomba superiore di Villa Torlonia.

ORIGINE DEL METODO E CARATTERE DEI CAMPIONI

La totale assenza di iscrizioni e monete datate hanno reso la datazione delle catacombe ebraiche di Roma ancora più ardua di quella delle catacombe cristiane.[9] Fino all'inizio del Novecento, le catacombe ebraiche di Roma venivano datate quasi esclusivamente in base ad argomentazioni teologiche ed ideologiche.[10] Da questo momento in poi, considerazioni archeologiche cominciarono gradualmente a sostituire le vecchie idee e pregiudizi permettendoci di concludere che le catacombe ebraiche di Roma fossero coeve a quelle cristiane.[11]

Questa nuova datazione delle catacombe ebraiche rimane sempre in vigore, anche se ha un grosso svantaggio dal punto di vista metodologico: si fonda sulla supposizione che confronti stilistici tra il materiale ebraico e quello non-ebraico giustifichino una datazione allo stesso periodo. Tale affermazione è problematica, però, fra l'altro perché, come abbiamo già visto, la datazione del materiale non-ebraico con criteri stilistici è spesso oggetto di controversia tra rappresentanti di diverse scuole e tradizioni.[12] Oltre a ciò, datazioni che risultano dal metodo stilistico producono parametri cronologici che spesso sono troppo poco dettagliati per essere utili per una cronologia precisa. Così non ci permettono di inquadrare cronologicamente le varie tappe storiche delle zone sotterranee di cui vogliamo progressivamente ricostruire la storia.

Per risolvere il problema della datazione delle catacombe ebraiche di Roma era quindi necessario trovare un metodo che non dipendesse da argomentazioni piuttosto soggettive, ma da metodi controllabili. Com'è noto, l'archeologia del dopoguerra si caratterizza per una serie di nuove tecniche scientifiche che mirano a perseguire appunto questo fine. Fra queste nuove tecniche scientifiche, il metodo di datazione tramite carbonio radioattivo è certamente fra i più noti e diffusi, perché più evoluto. Questo metodo, che può essere applicato solo nel caso di materiale organico, si

fonda sul principio di una diminuzione di radioattività che è standard e misurabile e che entra in vigore al momento stesso in cui un organismo cessa di esistere (il cosiddetto 'tempo di dimezzamento' che è fissato a 5730 anni).[13] Profondamente consapevoli dell'importanza di questo metodo, abbiamo cercato di esplorarne le possibilità durante uno studio delle due catacombe ebraiche di Villa Torlonia.

Dalla loro scoperta nel 1919, le catacombe ebraiche di Villa Torlonia sono state studiate molte volte, prima da R. Paribeni e poi da H.W. Beyer e H. Lietzmann,[14] ma lo studio più significativo rimane quello di U.M. Fasola. In base agli scavi complessivi eseguiti negli anni 1973-1974 pur in condizioni statiche molto delicate, Fasola ha potuto chiarire definitivamente non solo l'estensione, la topografia e la storia del monumento, ma anche la relazione molto discussa tra la catacomba superiore e quella inferiore.[15]

Dopo il trasferimento della gestione e tutela delle catacombe ebraiche dalla Santa Sede allo Stato Italiano nel quadro del nuovo concordato del 1984, le catacombe ebraiche di Villa Torlonia sono state al centro di nuovi studi e ricerche.[16] Anche se, di conseguenza, le catacombe di Villa Torlonia possono dirsi fra le più esplorate e conosciute di Roma, è importante sottolineare che la loro datazione rimane ancora un elemento di grande incertezza.[17]

La tipologia delle tombe nelle due catacombe ebraiche di Villa Torlonia è simile a quella delle catacombe cristiane di Roma ed in maggioranza consiste di loculi scavati nelle pareti delle gallerie. Per quanto riguarda la loro chiusura si possono distinguere tre diverse modalità: 1) con lastre di pietra o di marmo; 2) con tegole, disposte una accanto all'altra e 3) con piccoli muri di mattoni e pezzi di tufo; spesso questi muretti, che sono una caratteristica della zona D, venivano coperti con calce su cui venivano dipinte le iscrizioni funerarie in colore rosso.

È proprio nella calce delle chiusure - e specialmente in quelle del terzo tipo - che troviamo il materiale organico di cui abbiamo bisogno per una datazione ^{14}C: sono piccoli frammenti di carbone di legna che sono stati inclusi al momento della chiusura originale della tomba (*fig. 3*).

Il fatto che tali frammenti, per altro molto difficili da rinvenire, siano presenti in alcune tombe ma non in altre, suggerisce chiaramente che il carbone sia da considerare come una inclusione casuale, ovvero che non è mai stato aggiunto in modo sistematico durante il processo di produzione della calce.

Fig. 3. Frammento di carbone di legna in una chiusura di una tomba nella galleria D14 della catacomba ebraica di Villa Torlonia.

DESCRIZIONE E PRESENTAZIONE DEI CAMPIONI

Durante il nostro sopralluogo nelle catacombe ebraiche di Villa Torlonia siamo riusciti a recuperare un numero consistente di frammenti di carbone, di cui presentiamo qui quelli analizzati con *l'AMS* presso l'Università di Utrecht.

Prima di essere messi nell'acceleratore, i frammenti sono stati preparati con il CO_2 ottenuto dalla combustione dei campioni dopo il loro trattamento chimico utilizzando il metodo acido-alkali-acido.[18] I risultati delle nostre analisi, che sono state condotte in tre momenti successivi per permettere controlli intermedi, sono presentati nella tabella 1. Una calibrazione per trasformare i dati ottenuti in 'età calendari' (1 e 2 σ) è stata eseguita utilizzando il programma computerizzato Calib 4.3.[19]

Si noti che ogni campione ha due numeri: uno che si riferisce al numero del laboratorio dell'Università di Utrecht (UtC-nr) e l'altro che indica il luogo dove è stato prelevato all'interno delle catacombe di Villa Torlonia. Così il campione detto *B4-E7-I* si riferisce alla galleria B4 secondo la numerazione di Fasola, lato Est, settima fila di loculi dall'inizio della galleria, prima tomba partendo dal basso.[20] Includiamo anche una lucerna dal museo archeologico dell'Università Cattolica di Lovanio di cui parleremo più a lungo separatamente (*infra*).

Prima di procedere con l'analisi dei risultati presentati in questa tabella, è necessario discutere in modo più generale alcuni quesiti che bisogna risolvere prima dell'interpretazione concreta dei dati.

Tabella 1

Campione	Materiale analizzato	Massa [mg C]	Codice laboratorio	$\delta^{13}C$ [‰]	Età ^{14}C [anno BP]	Età calendario [anno]
B4E7i	Carb. di legna	2.200	UtC-6718	-24.6	1753 ± 33	1σ: cal AD 241-263, 274-339. 2σ: cal AD 144-149, 177-191, 213-393.
A10S3ii	Carb. di legna (?)	0.180	UtC-6744	-25.0*	12610 ± 170	1σ: cal BC 13556-13192, 12877-12365. 2σ: cal BC 13701-12216.
C2S1iii	Carb. di legna	0.670	UtC-6719	-25.2	2114 ± 46	1σ: cal BC 193-183, 180-84, 78-58. 2σ: cal BC 352-294,231-218,211-37,31-20,11-calAD
E1soffito	Carb. di legna	2.220	UtC-6720	-25.4	1983 ± 33	1σ: cal BC 1-cal AD 62. 2σ: cal BC 47-cal AD 82, 106-115.
D10N1ii	Carb. di legna	2.110	UtC-6721	-25.2	1831 ± 30	1σ: cal AD 136-162, 170-222. 2σ: cal AD 87-101, 124-255, 303-317.
D14E11ii	Carb. di legna	2.130	UtC-6722	-25.2	1915 ± 29	1σ: cal 68-123. 2σ: cal AD 5-7, 21-134, 155-175, 193-210.
A2W5i	Carb. di legna	0.160	UtC-11386	-25.6	2350 ± 80	1σ: cal BC 753-696, 541-358, 279-259, 238-237. 2σ: cal BC 763-678, 677-610, 597-347, 320-206.
A9W6iv	Carb. di legna	0.440	UtC-11387	-25.6	1849 ± 40	1σ: cal AD 129-223. 2σ: cal AD 73-252, 307-314.
D2S3iii	Carb. di legna	2.380	UtC-11388	-25.6	1810 ± 33	1σ: cal 136-244. 2σ: cal AD 90-99, 122-263, 276-336.
D4S8iv	Carb. di legna	2.320	UtC-11389	-25.3	1759 ± 38	1σ: cal 236-269, 271-340. 2σ: cal AD 138-162, 170-197, 208-389.
E3E7iv	Carb. di legna (?)	0.080	UtC-11390	-25.0*	13200 ± 240	1σ: cal 14352-13501. 2σ: cal BC 14606-12649.
E9W3iii	Carb. di legna	0.730	UtC-11391	-27.0	1902 ± 40	1σ: cal AD 36-38, 55-136. 2σ: cal AD 25-215.
Lucerna Lovanio wi160	Nerofumo	0.720	UtC-11394	-27.1	1759 ± 37	1σ: cal 235-340. 2σ: cal AD 139-158, 171-196, 208-388.
A2W15arc iii	Carb. di legna	2.380	UtC-11472	-23.9	1745 ± 38	1σ: cal 246-340. 2σ: cal AD 183-189, 214-408.
CW4-sarcofago murato	Carb. di legna (?)	0.126	UtC-11473	-25.0*	1850 ± 100	1σ: cal AD 58-257, 282-284, 295-321. 2σ: cal BC 41-cal AD 402.
E3E6viib	Carb. di legna (?)	0.077	UtC-11474	-25.0*	4100 ± 160	1σ: cal BC 2876-2477. 2σ: cal BC 3088-3060, 3038-2195, 2164-2148.

** stimato*

RIFLESSIONI SUL METODO

Datare muri, e quindi strutture architettoniche, tramite una datazione ^{14}C del carbone incluso nella calce è un metodo abbastanza innovativo. Fuori Roma è stato utilizzato solo in Irlanda, per datare edifici medievali. Volendo trovare un'alternativa attendibile a metodi che cercavano di datare la calce attraverso una datazione ^{14}C della calce stessa - una procedura che ancora oggi rimane molto problematica[21] - l'autore delle ricerche irlandesi, R. Berger, ha preso campioni da edifici la cui datazione era sicura grazie ad informazioni fornite da altre fonti (letterarie, epigrafiche). Ha così potuto dimostrare che il metodo che si fonda sull'analisi di frammenti di carbone lignei inclusi nella calce è attendibile e che, di conseguenza, può essere applicato anche nel caso di edifici per i quali non si abbiano dati storici a disposizione.[22] Anche se, in fondo, stiamo applicando lo stesso metodo nel caso dei campioni dalle catacombe di Villa Torlonia, è importante riflettere bene sul problema metodologico, ovvero se a Roma il metodo possa avere la stessa attendibilità che in Irlanda. Per poterlo stabilire, bisogna prima studiare l'origine dei pezzi di carbone e poi il loro valore cronologico.

È già stato osservato che le particelle di carbone trovate nelle catacombe ebraiche di Villa Torlonia sono state incluse nella calce per caso e non in modo sistematico o volontario. Anche se non è chiaro quando questi pezzetti siano stati inclusi, sembra probabile che derivino dalle fornaci di calcinazione in cui la calce veniva bruciata per produrre calce viva, cioè la calce che insieme con l'acqua, costituisce il materiale di base per la calce spenta utilizzata nelle catacombe di Roma.[23]

Grazie ai risultati di scavi condotti fuori Roma possiamo ricostruire come funzionassero queste fornaci di calcinazione nell'antichità. Erano di due tipi:[24] quelle concepite per una produzione di massa, come, per esempio, le sei fornaci militari di Iversheim vicino a Bonn (Germania; *fig. 4*), quella di Vuippens vicino a Friburgo (Svizzera), quella di Weekly nel Northampshire (Gran Bretagna) e la fornace di Sagalassos in Pisidia (Turchia) - tutte fornaci in cui la pietra calcarea veniva separata da un arco di legno che sosteneva la calce e si disintegrava durante la combustione - come a Iversheim - o messa in uno spazio separato dal forno stesso ma collegato a quello tramite fori di areazione - come a Sagalassos.[25] Questo sistema corrisponde esattamente a ciò che dice Tertulliano sul pericolo corso da persone che credono in dottrine sbagliate: rischiano di precipitare 'dalla calce (i.e. dal compartimento superiore) nel fuoco'.[26]

Accanto a tali fornaci di tipo professionale, esistevano pure quelle di carattere molto più semplice, dette di 'strata mista', dove la calce ed il legno venivano accumulati in un pozzo o un incavo, in vari strati alternati di calce e legno. Esempi sono stati scavati in Egitto, in Giordania e in vari posti in Francia ed in Inghilterra.[27] Sono proprio le fornaci di questo secondo tipo che consentono la mescolatura di calce e di carbone, come è possibile osservare nelle tombe di Villa Torlonia. Nelle fornaci del primo tipo una tale mescolanza è meno probabile, ma è importante comprendere che non è completamente esclusa neanche nel caso del primo tipo, come dimostrano gli scavi di Sagalassos, dove la mescolanza di carbone e di calce è attestata vicino ad una fornace che appartiene, come abbiamo visto, al primo tipo, cioè una costruzione in cui la camera di combustione era separata dalla camera della calce tramite archi e tegole.[28] Così gli scavi di Sagalassos ci forniscono dati importanti per comprendere meglio un fenomeno attestato anche altrove nel mondo greco, sino nella Roma medievale dove la zona di materiali calcinati estratti da una fornace di calce si trova direttamente a Sud del prefurnio e la camera di combustione stessa contiene resti di legno carbonizzato, cenere, calce e marmi calcinati.[29]

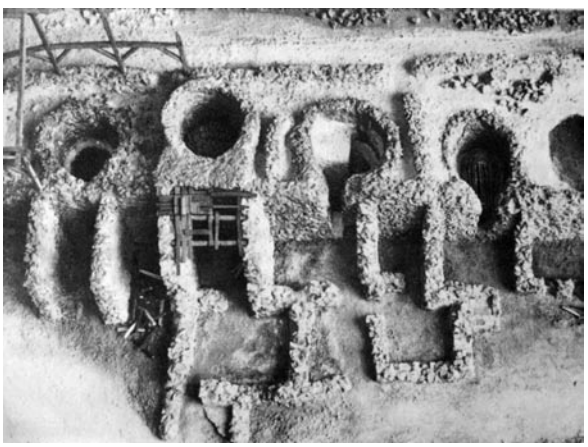


Fig. 4. La fornace di Iversheim, fotografia aerea.

Per quanto riguarda Roma, possiamo dire ben poco sugli aspetti archeologici e tecnici delle fornaci urbane. Sappiamo solo che anche nella capitale, le fornaci di calcinazione erano molto comuni - un fatto che, peraltro, non può meravigliare vista la necessità costante di materiali da costruzione.[30] Ma tutte le fornaci scavate finora nella capitale datano al periodo medievale.[31] Visto il grande numero di riferimenti a fornaci per la calce a Roma, possiamo supporre comunque che ambedue i tipi di fornaci vi fossero diffusi. Per di più, è fuori di dubbio che questo tipo di lavoro attirasse grandi gruppi di lavoratori. Non è, sicuramente, un caso che una delle sinagoghe intorno a cui si era organizzata la comunità ebraica di Roma si chiamasse appunto sinagoga τών Καλκαρησίων.[32] Ovviamente, questi ebrei non erano i soli *calcarienses* nella città.[33]

Ora che abbiamo stabilito l'origine dei nostri frammenti di carbone, possiamo passare a discutere ed analizzare il tema più importante del nostro contributo, cioè quello del valore cronologico dei nostri campioni. È importantissimo rendersi conto del fatto che le datazioni che proponiamo nella tabella 1 per i nostri campioni non sono altro che le età dei campioni stessi e che queste date *non corrispondono automaticamente* al momento della chiusura dei loculi, cioè il momento che cerchiamo di datare. Per poter fare questo, è necessario 1) determinare l'età dell'albero dal quale i nostri campioni provengono e 2) stabilire quanto tempo è trascorso tra il momento in cui il campione ha smesso di accogliere radioattività ed il momento in cui è andato a finire nella calce del loculo dove l'abbiamo trovato durante il nostro sopralluogo.

Per stabilire il primo fattore menzionato è necessario ritornare, un'ultima volta, ai processi di produzione di calce in genere, e di calce viva in particolare. Possiamo ricostruire questi processi abbastanza bene non solo grazie alle nostre fonti letterarie e agli scavi di fornaci di calcinazione di epoca romana, ma anche grazie alla letteratura antropologica che descrive come funzionavano tradizionalmente le fornaci in vari paesi mediterranei prima dell'avvento dei grandi stabilimenti industriali. Da tutte queste fonti insieme emerge, con grande consistenza, l'immagine di un processo di produzione che utilizzava, per attizzare la fornace, non alberi interi, ma rami ed ogni altro tipo di sterpaglia. Così già Teofrasto (372-287 a.C.) osservava che di tutti i materiali combustibili la sterpaglia produceva il fuoco più vivo.[34] Similmente, in un papiro databile al 26.6.263 d.C., che descrive i lavori che accompagnavano la doratura del tetto del ginnasio di Antinoopolis in Egitto, si parla di scarti di legno, messi a disposizione dei lavoratori di calce dalla città.[35] Gli scavi della fornace di Weekly, databile intorno alla metà del II secolo d.C., confermano le osservazioni di Teofrasto e le informazioni papirologiche, rivelando la presenza di rami carbonizzati con un diametro massimo di 40 mm.[36] Descrizioni di fornaci del tipo tradizionale (kabbarah) trovate in villaggi palestinesi negli anni trenta del secolo scorso, indicano che anche queste fornaci venivano sempre alimentate non con alberi interi, ma con materiali molto più semplici come cardi ed erbe che venivano raccolti nelle settimane che precedevano la combustione della calce.[37] Sempre da altre fonti è noto che pigne e noccioli di olive potevano produrre lo stesso risultato.[38]

Esperimenti moderni, come quelli eseguiti a Iversheim, dove una ricostruzione moderna delle fornaci romane è servita per produrre la calce nello stesso modo in cui lo facevano i legionari romani, hanno poi chiarito perché gli antichi selezionavano appunto questo tipo di legno: solo rami e sterpi possono produrre il forte calore (almeno 900° C) necessario per trasformare la calce cruda in calce viva.[39]

Riguardo ai nostri campioni, l'utilizzo di questo tipo di materiale combustibile significa dunque che le datazioni ^{14}C ci forniscono dati attendibili per una datazione precisa dei frammenti di carbone: i rami che cerchiamo di datare avevano qualche anno solo (e nel caso di pigne e noccioli non più di un anno) e sono stati utilizzati come combustibile abbastanza presto dopo il taglio e raccolta, cioè presto dopo il momento in cui il processo di accoglimento di radioattività terminava. Tutto ciò significa che una datazione ^{14}C di pezzi di carbone ci da un *terminus post quem* sicuro per gli stessi pezzi di legno perché era legno giovane.

Rimane finalmente la domanda riguardante il tempo trascorso tra il momento della formazione dei pezzetti di carbone (durante la produzione di calce viva) e la loro deposizione finale come inclusioni nella calce spenta.[40] Possiamo solo ipotizzare quanto lungo fosse questo tempo. L'avviso di Plinio che bisogna aspettare tre anni prima di utilizzare calce spenta, viene considerato dagli studiosi moderni come la descrizione di una situazione ideale, ma non necessariamente come riflessione della realtà di ogni giorno.[41] Anche se non è possibile essere certi, pare nondimeno probabile che di solito i tempi dovessero essere abbastanza brevi. In fin dei conti, a Roma il bisogno di calce non era solo enorme ma pure continuo: nel IV secolo d.C., per esempio, si parla di non meno di 3000 carri di calce l'anno, di cui la metà era destinata per la manutenzione degli acquedotti.[42] Questo bisogno spiega non solo la presenza delle tante fornaci di cui abbiamo detto prima e la presenza di una comunità ebraica che portava il nome dei lavoratori di calce, ma spiega pure la necessità di produrre calce in continuazione.[43]

Prendendo in considerazione una tale situazione si può dunque supporre che di solito la produzione di calce viva (il momento quando il carbone veniva associato per la prima volta con la calce) e il momento dell'utilizzo della calce spenta (quando il carbone veniva integrato nella calce) dovessero essere processi non troppo lontani l'uno dall'altro nel tempo. Quando si accetta questa ipotesi, ciò significa che le datazioni che abbiamo proposte nella tabella 1 riflettano, con qualche anno di ritardo, le datazioni delle tombe da cui i campioni sono stati presi.

Esiste una ragione in più perché crediamo che questo metodo produca risultati validi: una volta che confrontiamo le datazioni dei nostri campioni con le informazioni topografiche, emerge una ricostruzione della storia architettonica delle catacombe di Villa Torlonia che è decisamente convincente, come vedremo ora.

INTERPRETAZIONE DEI DATI DALLE CATACOMBE DI VILLA TORLONIA

Analizzando i risultati presentati nella tabella 1, vediamo che questi si suddividono in due gruppi: un primo gruppo di datazioni che corrisponde a ciò che ci si potrebbe attendere, e un secondo gruppo che contiene datazioni che sono chiaramente

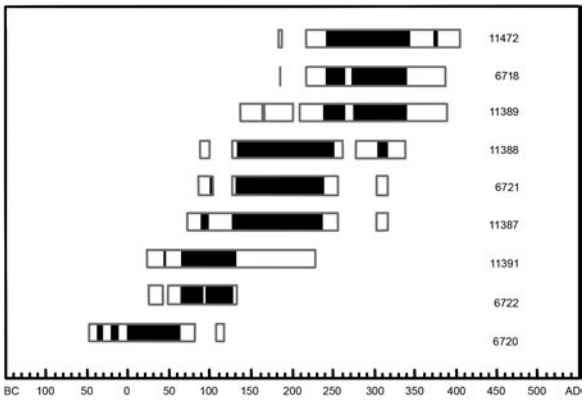


Fig. 5. Presentazione grafica della tabella 2.

troppo alte. Invece di svalutare il nostro metodo, questo secondo gruppo ci permette di trarre una conclusione importante che ci aiuta a precisare le procedure da seguire in ricerche future: per essere validi, i campioni devono avere una massa di non meno di 2 mg. Campioni che pesano di meno, non producono risultati validi per una datazione tramite ^{14}C.

Una volta che escludiamo i dati non validi,[44] emerge un insieme di dati molto interessante, come vediamo nella tabella 2 e nella presentazione grafica che l'accompagna (*fig. 5*). La tabella serve per illustrare la datazione in un modo facilmente comprensibile, mentre la presentazione grafica offre la possibilità di studiare le relazioni cronologiche tra i campioni, permettendo di fissare ancora più precisamente la relazione cronologia tra gli stessi. Si noti che le aree nere nella fig. 3 hanno una probabilità di 67%, e le aree bianche una probabilità di 95%.

Come ha mostrato definitivamente il padre Fasola, le catacombe ebraiche di Villa Torlonia consistono in due cimiteri separati che sono stati collegati quando i fossori della galleria C1 si sono per caso imbattuti nella galleria E 1. Questo significa, chiaramente, che la galleria E 1 era preesistente e, di conseguenza, più antica della galleria C1.[45]

Grazie ai dati ^{14}C possiamo ora controllare le osservazioni di Fasola, e fissarle cronologicamente (*fig. 6*).

Uno sguardo alla figura 3 rivela già come sono consistenti i dati. Le osservazioni le più importanti sono:

1. I campioni dalla regione E della catacomba inferiore (nr. 6720 e 11391) sono più antichi del campione più antico dalla regione A della catacomba superiore (nr. 11387; cf. le zone nere per ambedue i campioni nella fig. 5). Questo non solo conferma le osservazioni di padre Fasola, ma ci permette anche di datare la relazione tra i due complessi: il momento in cui i lavori nella regione E della catacomba inferiore stavano per terminare anticipano, ma con pochissima distanza nel tempo, il momento in cui i lavoratori della regione C della catacomba superiore stavano per cadere dentro E 1. Le nostre datazioni ottenute tramite ^{14}C corrispondono bene alle osservazioni topografiche.
2. Il campione più antico in assoluto proviene dall'entrata alla regione E della catacomba inferiore, fuori della galleria E 1. Questo campione, che è stato trovato nella calce che copre il soffitto dell'entrata, data alla seconda metà del I secolo d.C.[46] Una tale datazione è, evi-

Tabella 2

Campione	Materiale analizzato	Massa [mg C]	Codice laboratorio	$\delta^{13}C$ [‰]	Età ^{14}C [anno BP]	Età calendario 2σ [anno]
Catacomba	**inferiore**					
1. E1soffito	Carb. di legna	2.220	UtC-6720	-25.4	1983 ± 33	cal BC 47-cal AD 82, 106-115.
2. E9W3iii	Carb. di legna	0.730	UtC-11391	-27.0	1902 ± 40	cal AD 25-215.
3. D2S3iii	Carb. di legna	2.380	UtC-11388	-25.6	1810 ± 33	cal AD 90-99, 122-263, 276-336.
4. D4S8iv	Carb. di legna	2.320	UtC-11389	-25.3	1759 ± 38	cal AD 138-162, 170-197, 208-389.
5. D10N1ii	Carb. di legna	2.110	UtC-6721	-25.2	1831 ± 30	cal AD 87-101, 124-255, 303-317.
6. D14E11ii	Carb. di legna	2.130	UtC-6722	-25.2	1915 ± 29	cal AD 5-7, 21-134, 155-175, 193-210.
Catacomba	**superiore**					
7. A2W15arciii	Carb. di legna	2.380	UtC-11472	-23.9	1745 ± 38	cal AD 183-189, 214-408.
9. A9W6iv	Carb. di legna	0.440	UtC-11387	-25.6	1849 ± 40	cal AD 73-252, 307-314.
10. B4E7i	Carb. di legna	2.200	UtC-6718	-24.6	1753 ± 33	cal AD 144-149, 177-191, 213-393.

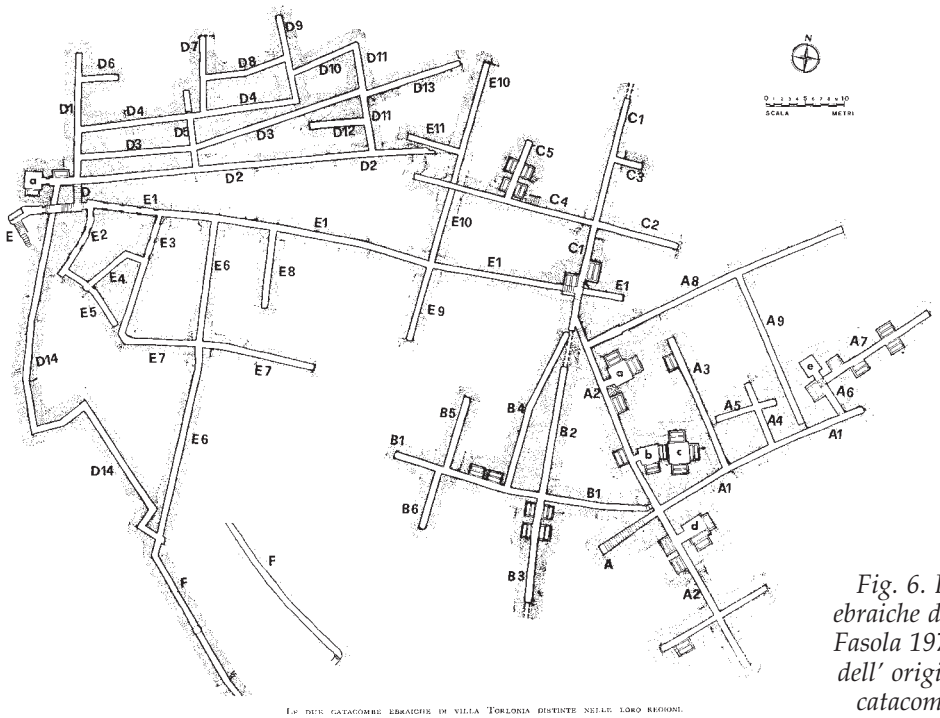


Fig. 6. Le due catacombe ebraiche di Villa Torlonia (da Fasola 1976) con indicazione dell' origine dei campioni in catacomba (cf. tabella 2).

dentemente, molto alta. Vogliamo sottolineare che questo non significa che l'inizio del complesso catacombale nel suo insieme sia automaticamente da datare nello stesso periodo. Visto che la zona d'entrata possiede alcune caratteristiche molto particolari, è plausibile che avesse un'altra funzione prima della trasformazione ad area d'ingresso per la catacomba.[47] Notiamo pure che il valore 2 σ più recente (probabilità di 95%) data alla prima metà del II secolo.

3. Il campione nr. 11391, che proviene dalla galleria E 9, ha un *terminus ante quem* del 215 d.C. Questo significa che intorno a quegli anni la parte inferiore della regione E, e particolarmente la galleria E 1 da cui si estende la galleria E 9, fosse in pieno sviluppo. L'inizio della regione E è dunque da datare nella seconda metà del II secolo d.C.
4. Il campione dalla galleria E 9 è interessante per un'altra ragione ancora. Mentre la galleria E 9 si stacca verso destra dalla galleria principale E 1, la galleria E 10 si stacca dalla stessa galleria a sinistra, al lato opposto. Pare ragionevole supporre che le gallerie E 9 e E 10 siano state scavate nello stesso periodo. Questo vale probabilmente anche per la breve galleria E 11 che, a sua volta, si stacca dalla galleria E 10. Ora, la galleria E 11 è importante sotto il profilo topografico perché permette di determinare la relazione cronologica tra la regione E e la regione D: gli scavatori della galleria D 2 si sono imbattuti nella galleria E 11. Questo significa, ovviamente, che la galleria E 11 era preesistente, quindi più antica. Se supponiamo che la galleria E 11 data, più o meno, allo stesso periodo della galleria E 9, per la quale abbiamo una datazione assoluta, tutto ciò significa che la regione D dovrebbe datare ad un periodo più tardo. Quando ci rivolgiamo ai nostri dati, vediamo che anche questa volta, le nostre datazioni sono convincenti: il campione da E 9 (nr. 11391) è più antico dei campioni da A 2, A 4, A 10 (nr. 6712, 11388, 11389; il nr. 6722 da D 14 rappresenta un'eccezione di cui parliamo sotto).
5. Visto che i dati per la regione D datano tutti al periodo seguente, con poca distanza, al momento in cui la zona inferiore della regione E veniva scavata, sembra giustificato supporre che la regione D, che come catacomba ha caratteristiche formali abbastanza diverse dalla regione E, venisse scavata solo in un secondo tempo, come 'nuovo' cimitero, dopo che le inumazioni nella zona E erano terminate. In tal modo possiamo confermare l'ipotesi di Fasola della posteriorità della regione D.[48] Questo processo ebbe inizio nel II secolo, e continuò nel III e persino nel IV secolo.
6. Secondo le nostre datazioni, la galleria D 14

(nr. 6722) è molto antica, e coeva alla galleria E 9. Visto che D 14 è, sotto il profilo formale, una galleria abbastanza diversa dalle altre gallerie della zona D, e che ha in comune con la regione D solo il modo di chiudere le tombe, è possibile che lo sviluppo della regione D cominciasse con la costruzione di una galleria di 'prova', cioè D 14. La corrispondenza cronologica tra la datazione della galleria E 9 e D 14 suggerisce che D 14 veniva scavata al momento in cui le inumazioni nella regione E stavano per esaurirsi.

7. Le gallerie D 2 (nr. 11388) e D 10 (nr. 6721) sono coeve. Significa che D 10 veniva scavata da D 2 (tramite D 11) e non da D 4. Per di più, la contemporaneità suggerisce che queste due gallerie venivano sviluppate ad alto ritmo. Tutto ciò conferma dunque, ma ora con dati innegabili, le idee che stavano alla base del sistema a graticola già notato dal Fasola.[49]
8. I dati per la regione D della catacomba inferiore sono coevi al dato più antico per la regione A (cioè A 9 o nr. 11391) della catacomba superiore. Visto che A 9 costituisce una delle ultime gallerie della regione A, questa regione dovrebbe avere un inizio che anticipa la datazione di A 9 di almeno alcuni decenni. Questo fa supporre che il cimitero inferiore E ed il cimitero superiore A fossero sviluppati nello stesso periodo, dalla seconda metà del II secolo d.C. in poi.
9. Il campione da B 4 (nr. 6718) è chiaramente più giovane del campione da A 9 (nr. 11387). Visto che A 9 si trova in una parte ulteriore della regione A, significa che B veniva scavato solo dopo che le tombe in A erano esaurite. In B, le sepolture continuarono dunque fino alla seconda metà del IV secolo. È chiaro che i costruttori di B hanno sfruttato quello che hanno osservato nella regione A: la galleria B 1 va direttamente al cunicolo idraulico che gli scavatori di A 2 avevano incontrato prima e utilizzato per sviluppare la regione C.
10. L'ultimo dato per la catacomba superiore, nr. 11472, data pure alla seconda metà del IV secolo. Questo campione proviene dalla calce dell'intonaco su cui è stata fatta la pittura parietale dell'arcosolio III. In base a considerazioni stilistiche, questa pittura è stata datata al periodo 350-370 d.C.[50] La datazione per il nostro campione ora conferma questa datazione tramite ^{14}C (con una probabilità di 67%). Il fatto che questo campione da A 2 sia più tardo dal campione A 9 - questa ultima una galleria che, ovviamente, venne sviluppata posteriormente ad A 2 - non deve meravigliare: l'arcosolio dipinto rappresenta un'aggiunta in uno stile che è tipico per il IV secolo. Possiamo affermare con una probabilità del 95% che l'arcosolio è stato decorato negli anni prima dell'assedio di Roma di Alarico (410 d.C.).
11. Tutto sommato, sembra che le due catacombe ebraiche di Villa Torlonia fossero in uso continuo dal II al IV secolo d.C. Nella regione E le sepolture ebbero inizio nel II secolo (67% di probabilità) e finirono nella prima metà del III (95% di probabilità), quindi almeno alcuni decenni prima dell'inizio supposto normalmente per le catacombe di Villa Torlonia e dunque nello stesso tempo delle prime sepolture nelle catacombe cristiane di Roma.[51] Oltre alle datazioni ^{14}C vi sono anche ragioni storiche per considerare questa nuova datazione verosimile - ragioni su cui non possiamo soffermarci in questa sede.[52]

ALTRE APPLICAZIONI DEL METODO ^{14}C

Visto che non è sempre facile trovare nelle catacombe campioni adatti per un'analisi ^{14}C, abbiamo infine cercato di stabilire se il metodo proposto nelle pagine precedenti potesse essere applicato utilizzando altri tipi di materiale di base. Anche in questo caso i risultati del nostro primo tentativo sono stati positivi.

Nel museo dell'Università Cattolica di Lovanio è conservata una lucerna del tipo 'a perlina' (*fig. 7*). La provenienza della lucerna non è del tutto chiara. Proviene dalla collezione del gesuita Pierre Charles (1883-1954), che non ha mai annotato dove o da chi ha acquistato questo reperto. Dal momento che i viaggi missionari di Charles lo portarono in tutto il mondo, e considerando i centri di produzione per questo tipo di oggetto, sembra comunque abbastanza probabile che questa lucerna abbia una provenienza romana se non cimiteriale.[53]

Ciò che importa qui è che il manufatto appartenga ad un gruppo di lucerne la cui datazione è confermata, non solo in base a caratteristiche tipologiche, ma anche grazie a contesti archeologici dalla stratigrafia ben circoscritta nel tempo.[54] Tali datazioni servono come mezzo di controllo per una datazione ^{14}C della lucerna.

Come tante altre lucerne tardoantiche, la lucerna di Lovanio conserva tracce di 'nerofumo' intorno alla sua bocca (appena visibile nella foto *fig. 7*). È possibile analizzare questo velo di caligine utilizzando lo stesso metodo che abbiamo descritto sopra. Nella tabella 3 riprendiamo i dati dalla tabella 1.

Tabella 3

Campione	Materiale analizzato	Massa [mg C]	Codice laboratorio	$\delta^{13}C$ [‰]	Età ^{14}C [anno BP]	Età calendario [anno]
Lucerna Lovanio wi160	Nerofumo	0.720	UtC-11394	-27.1	1759 ± 37	1σ: cal 235-340. 2σ: cal AD 139-158, 171-196, 208-388.

Fig. 7. Lucerna dalla collezione Charles dell'Università Cattolica di Lovanio.

Studiando i risultati 2 σ per questa lucerna, diventa chiaro che essa possiede un *terminus ante quem* del 388 d.C. Tale risultato è importante non solo per le indicazioni crono-tipologiche, ma perché mostra così che il metodo proposto può produrre risultati validi anche se applicato sulle lucerne. Il risultato è inoltre importante perché indica che ora possiamo datare in modo assoluto il momento più significativo, dal punto di vista dell'archeologo, della vita di una lucerna: il momento in cui la lucerna veniva effettivamente usata per l'ultima volta.

La lucerna analizzata è servita solo come 'test case'. Considerando i risultati delle nostre analisi, crediamo tuttavia che questo approccio sia utile perché può servire nei tentativi di datare gallerie intere o tombe singole nelle catacombe di Roma: nel caso di una lucerna deposta dentro una tomba che non è più stata aperta, una datazione ^{14}C della bocca della lucerna può fornirci il momento in cui la tomba è stata chiusa. Se, invece, una lucerna è stata affissa al di fuori, accanto alla tomba, la datazione ^{14}C può servire per determinare quando le visite ad una tomba smisero di essere effettuate.

CONCLUSIONI

Abbiamo descritto un nuovo metodo per datare le catacombe ebraiche di Roma e per datare il momento in cui una lucerna veniva utilizzata per l'ultima volta dagli antichi. Crediamo che i primi risultati di questo metodo siano promettenti. Ulteriori ricerche saranno necessarie per precisare e sviluppare il metodo proposto. Nella discussione dei dati delle catacombe di Villa Torlonia abbiamo osservato che il nuovo metodo ha valore solo quando applicato in stretta collaborazione con gli approcci tradizionali, come gli studi architettonici e le descrizioni topografiche. Per di più, abbiamo visto che non tutti i campioni producono risultati - per esempio quando sono troppo piccoli o quando, nel buio delle gallerie sotterranee, un campione che a prima vista sembra essere carbone risulta costituito da altro materiale una volta analizzato con metodi chimici nel laboratorio.

Ciò nonostante, crediamo che il metodo che abbiamo proposto abbia grande importanza una volta che gli venga permesso di giocare un ruolo accanto, e ad interscambio, con metodi tradizionali. L'importanza del nuovo metodo, che è costoso ma produce risultati affidabili, risiede chiaramente nella sua capacità di fornire datazioni assolute.

APPENDIX

RADIOCARBON DATING OF INTRUSIVE MATERIALS IN THE CATACOMBS OF ROME

Leonard V. Rutgers

Introduction[55]

In September 2004 a research team of Utrecht University made an extraordinary discovery in one of the side galleries that branches off the main underground axis of the so-called Liberian region in the catacombs of St. Callixtus on the Appian Way.[56] In the back of a *loculus* tomb the team found the lower jawbone of an animal. At first sight we believed this jawbone to belong to either a dog or a wolf. Subsequent investigation by specialists revealed, however, that we were actually dealing with the remains of a pig (*fig. 8*).[57]

It hardly needs stressing that this most remarkable discovery raises the question of whether the early Christian catacombs were somehow used for the interment of animals (in addition to being used for burying people). The idea that in the ancient world animals could end up in cemeteries

Fig. 8. Pig jaw from the catacombs of St. Callixtus.

used by humans is not as farfetched as it might seem at first sight. A recent study of a late antique cemetery at Lugnano, some 110 km north of Rome, revealed, for example, that in exceptional cases Romans interred pets along their regular dead.[58] Other, even more remote interpretational possibilities also suggest themselves. Thus, one could imagine that the pig in question was deposited to provide the person entombed here with food to be enjoyed in the hereafter - a rather unlikely but perhaps not entirely impossible scenario in what otherwise strikes one as a typically and exclusively early Christian catacomb complex.[59]

Theoretically it should be possible to answer questions such as these by looking carefully at the archaeological context from which our pig jaw derives. This should allow one to determine whether we are dealing with a primary or a secondary deposition. In reality, however, such a procedure does not produce unequivocal results. It is true that the pig bone was found at the backside of a loculus, in a niche that seems to have been carved specifically for a being that was smaller than the person buried in front of it in the same *loculus*. Mentioned niche gives one the impression that we are dealing with a bisomus tomb rather than a single person's grave and thus with a tomb that was destined from the beginning for the burial of our little pig. Yet, it also needs to be observed that the remaining osteological evidence - both human and animal - in this loculus is heavily disturbed. The *loculus*, which is located on the floor level of the gallery, was broken into at an unknown point in time. Its contents have suffered appreciably from this act of vandalism. It is conceivable, therefore, that the pig did not belong to the original deposition, but that it somehow ended up in the loculus at an unknown point in time.

In light of such a state of affairs, it is evident that traditional archaeological methods cannot help to solve this riddle. Yet, it is still possible to elaborate on the historical importance of our pig bone, provided one succeeds in dating it properly. As will become clear from what follows, such dating can be accomplished by radiocarbon dating using accelerator mass spectrometry (AMS).

Radiocarbon dating

Radiocarbon dating provides archaeologists with a powerful tool to date organic materials. Although radiocarbon dating is standard procedure in many archaeological excavations, it has never been tried in the Christian catacombs of Rome.

Having attained promising results while AMS dating charcoal samples from the Jewish catacombs, it appeared useful to try and apply this method to the pig jaw from the St. Callixtus catacombs as well.[60] A miniscule fragment was submitted to the AMS facility at Utrecht University where AMS radiocarbon analysis was performed. The results are presented in table 4 and in fig. 9.

Even a brief glance at table 4 and fig. 9 reveals several interesting results. Most importantly, it can be shown that the pig bone was not part of the original deposition in one of the graves of the Liberian region. Instead, it must be regarded as a later intrusion.

No less interestingly, it can also be observed that the pig bone can be dated rather precisely, the 2 σ-calendar age ranging from 1410 to 1479 AD. This relatively short chronological span is due to the fact that BP date of our sample corresponds to a point in the calibration curve where this curve slopes downward rather steeply.

To this can finally be added that the problem of marine reservoir effects is unlikely to play any role here.[61] After all, it is not very probable that during its regular feeding regime our pig feasted on large quantities of marine dietary sources (fish). Thus one may safely conclude that the 2 σ-calendar range corresponds rather precisely to that period in time when this pig roamed the Roman Campagna.

Implications and conclusion

The evidence presented in this short contribution makes clear that radiocarbon dating can be extremely useful when applied to archaeological materials from the catacombs of Rome. The reason for this is twofold. First, there is a variety of organic materials available, which means that AMS dating does not necessarily have to be confined to analyzing small charcoal particles, as was the case in our study of the Jewish Villa Torlonia catacombs.[62] Second, radiocarbon dating enables us to not only

Table 4

Sample	Material	Mass [mg C]	Lab. Code	$\delta^{13}C$ *) [‰]	Age ^{14}C [year BP]	2σ calendar age ranges [year]
A1NIII	Collagen	2.260	UtC-13410	-20.4	461±33	Cal AD 1410-1479

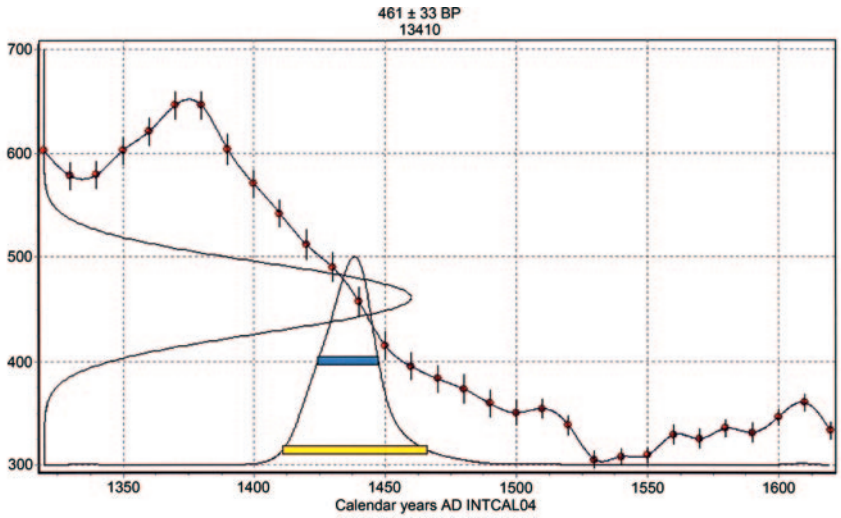


Fig. 9. Results radiocarbon dating of pig jaw using the Groningen Radiocarbon Calibration Program v1.0. 1σ in blue, 2σ in yellow.

date the catacombs themselves, but also to identify certain materials as intrusive elements.

In the case of catacomb archaeology, this latter point is of crucial importance. Starting in late antiquity, the catacombs - St. Callixtus catacombs in particular - have been entered continuously by grave-robbers, pilgrims, *corpisantari* and scores of other appassionati.[63] As a result, archaeological materials have been shifted around for centuries on end. It is obvious that such a situation impedes rather seriously the work of archaeologists who try to study the catacombs from a historical and/or chronological perspective. It is also obvious that such archaeologists are in need of a reliable method that allows them to distinguish between original and intrusive materials.

As may be evident from the above, radiocarbon dating can provide these archaeologists with such a method. In the particular case of the pig jawbone, we have seen that radiocarbon dating produces firm chronological evidence - evidence which, moreover, has the advantage of helping us to rule out immediately interpretations of a more exotic nature. In the Liberian region of the St. Callixtus catacombs, no pigs were buried or consumed, at least not in late antiquity.

How then did this pig end up in the catacomb? There are several possible answers to this question. One possibility is that the pig fell or wandered in, and died in the catacomb, in a *loculus* that was accessible to the animal because located on the same level as the floor level of the gallery next to it. Although the main entrance to the Liberian region does not seem to have been open at this time,[64] there are several other access routes by which the area could be entered. These routes include several galleries that connect the Liberian region to other underground areas of the St. Callixtus catacomb complex. In addition, it is also conceivable that access was possible through one of the many *lucernaria* (light shafts). These *lucernaria* - their presence is one of the outstanding characteristics of the Liberian region - connect the *cubicula* to which they belong to the surface. Although normally closed, it is not unusual for such *lucernaria* to open up unexpectedly as a result of tectonic movements or of human intervention.[65]

One final point deserves our attention. The 2 σ-calendar age of the pig bone predates the time of the official rediscovery of the catacombs (1578) by at least one hundred years. Interestingly enough, the chronological evidence provided by our pig bone does not represent an isolated case. There also survives, on the walls of the nearby *cubiculum* O, a 15th century charcoal inscription (*fig. 10*). This graffito confirms that during mentioned period

Fig. 10. Graffito of 1482 in cubiculum O in the catacombs of St. Callixtus.

access to the Liberian region was not limited to animals alone. Taken together, such evidence provides excellent further proof to confirm that Antonio Bosio (1576-1629) - early Christian archaeology's founding father - was not the first to engage in extensive subterranean peregrinations in Rome and surroundings.[66] With regard to archaeological materials from the catacombs of Rome we may thus conclude that radiocarbon dating not merely produces verifiable chronologies. It even has the potential of providing us with data that are useful for historiographical purposes as well.

NOTE / NOTES

1 È un piacere ringraziare la Soprintendenza Archeologica di Roma, e specialmente M. Barbera, per averci facilitato lo studio delle catacombe ebraiche di Villa Torlonia. Un vivo ringraziamento a Massimiliano Ghilardi per l'aiuto sulle fornaci per la calce a Roma (tutti i dati romani li dobbiamo a lui) e per la redazione del testo italiano. Altri consigli linguistici li dobbiamo a Miriam Ben-Zeev. Questa ricerca è stata sponsorizzata dall'Organizzazione Neerlandese per le Ricerche Scientifiche (NWO).

2 Da ultimo, in modo sistematico, si veda Deckers 1992 e Guyon 1994.

3 Per le monete, cfr. ad esempio Guyon 1987, 85. Per una critica del loro valore per la datazione cfr. Deckers 1992, 228-231. Per i bolli laterizi, tra gli altri, Tolotti 1970, 84-106 e 339-340; e specialmente 105. Per un esempio più recente di una valutazione del valore dei bolli laterizi, cfr. Fiocchi Nicolai *et al*. 2002, 52-55, 146-147.

4 Per le iscrizioni, e su come utilizzarle per la datazione, Guyon 1987, 53-62; Bisconti 1994.

5 Borbein 2000; Himmelmann 2000.

6 Deckers *et al*. 1987, 1991, 1994. Su questa problematica, si veda pure Février 1989.

7 Bisconti 1994, 7. Per la pittura parietale ostiense cfr. Mols 2002, 171: 'Il confronto stilistico vi ha un ruolo secondario, sebbene non sia affatto disprezzabile.'

8 Zimmerman 2002a; 2002b, 101-117.

9 I 255 bolli laterizi dalle catacombe ebraiche di Roma rappresentano materiale di riutilizzo come suggerito particolarmente da materiali provenienti dalla catacomba superiore di Villa Torlonia, cfr. Rutgers 1990, 154. Da ultimo sui bolli laterizi dalle catacombe ebraiche di Roma cfr. il contributo di Filippi 1991.

10 Rutgers 1995, 1-49. E cfr. ora, sulla prima fase, Ghilardi 2003.

11 Rutgers 1998, 45-71 con riferimenti alla bibliografia precedente.

12 Cfr., per esempio, il riassunto di Février 1989.

13 Per una breve introduzione, Renfrew / Bahn 2000, 137-145. Per una discussione dello *status* attuale, Taylor 1997, 65-96.

14 Paribeni 1920, 143-155; Beyer / Lietzmann 1930.

15 Fasola 1976.

16 Per un resoconto, si veda ora Barbera / Magnani Cianetti 2003, 55-70.

17 Per una critica della datazione che propone Fasola, cfr. Rutgers 1998, 64-66.

18 Per questo metodo, si veda Van der Borg *et al*. 1997.

19 Stuiver / Reimer 1993.

20 La lettera W che appare nella numerazione di alcuni campioni nella prima fila della tabella si riferisce al lato West (inglese) ossia Ovest (italiano) di una galleria.

21 Utilizzato, per esempio, da Cherf 1992, 262-264 con riferimenti ad altri esempi datati secondo questo metodo problematico. Per una discussione dei problemi di interpretazione, si veda van Strydonck / van der Borg / de Jong / Keppens 1992.

22 Berger 1992 con riferimenti ad altri metodi per datare la calce che non hanno prodotto risultati validi.

23 La scoperta della produzione di calce data già al periodo neolitico, cfr. Kingery *et al*., 1988. Per la calce nel mondo classico, cfr. Orlandos 1966, 136-151 che contiene (149-150) anche un'analisi chimica della composizione della calce da cui risulta che normalmente il carbone di legna non ne fa parte. Per l'immagine del fuoco che sta nella calce viva, cfr. il passo suggestivo in Agostino, *de civ. Dei* 21.4.

24 Cfr., per illustrazioni, Dix 1982.

25 Sölter 1970; Spycher *et al*. 1981; Jackson 1973; Poblome 2000. Si noti che l'arco di legno come supposto dai ricercatori di Iversheim non è un sine qua non. La calce può essere sistemata in un arco anche senza sostegno, cfr. Müller 1976, 77 fig. 7.

26 Tertulliano, *De carne Christi* 6: *pervenimus igitur de calcaria quod dici solet in carbonariam*.

27 Michalowski 1962; Uscatescu / Martín-Bueno 1997 con riferimenti ad altri siti nel Vicino Oriente; Lavergne / Suméra 2000; per l'Inghilterra, si veda Dix 1982, 337.

28 Viaene 1997, 419 fig. 9.

29 Per esempi di mistione di calce e carbone, cfr. Martin 1965, 432. Per Roma, si veda Saguì 1986, 348 e 349.

30 Lega 1999. Cfr. Lanciani 1975, 27-28: 'Molte sono le calcare scoperte ai miei tempi etc.', probabilmente in parte (se non tutte) di epoca tardoantica o altomedievale.

31 Saguì, 1986, 345-355; Serlorenzi 1992; Meneghini 1998; 2000.

32 Noy 1995, vol. II, no. 69, 98, 165, 558, e 584. Secondo alcuni si tratterebbe di un toponimo. Visto che le comunità ebraiche nel mondo antico potevano essere organizzate intorno a certe occupazioni, crediamo che in questo caso si può ben trattare di un riferimento al mestiere principale all'interno di questa comunità.

33 Per le fonti, Lega 1999.

[34] Teofrasto, *Historia Plantarum* 5.9.4.
[35] Kramer/Hübner 1976, 135 l. 34-35 e 136 l. 83-84. Secondo l'editore (cfr. il suo commento alla p. 144), gli scarti di legno venivano utilizzati perché il legno 'normale' era troppo costoso in Egitto. Secondo noi, questa spiegazione non è necessaria, poiché tale materiale era sempre impiegato nella combustione della calce.
[36] Jackson 1976, 136.
[37] Canaan 1932, 243; Dalman 1942, 22-23; Murshi Khadijah 1971, 107-109. Altri esempi moderni da Grecia, Tunisia ed Italia in Adam 1994, 150-155.
[38] Adam 1994, 153.
[39] Sölter 1970, 35-40. E cfr. Spycher 1981, 181.
[40] Sembra che il tempo tra la produzione di calce viva e di calce spenta era generalmente breve: la calce veniva spenta subito per evitare che si spegnesse da sola sotto l'influsso degli elementi, cfr. Dix 1982, 339.
[41] *Pace* Adam 1994, 159. Plinio, *Historia Naturalis* 23.55. Si noti che pure le descrizioni pliniane della *fornax calcaria* non corrispondono bene alle fornaci trovate dagli archeologi.
[42] Cfr. *Codex Theodosianus* 14.6.3. Secondo i calcoli degli archeologi di Weekly, la fornace poteva produrre una quantità di calce di 5,5 m^3 - una quantità che basterebbe per costruire un edifico di 30 x 10 x 3 metri, cfr. Jackson 1973, 138. Secondo Baradez 1957, 293-294 a Tipasa ci voleva un anno intero per le fornaci per poter produrre la calce necessaria per la costruzione della cinta muraria.
[43] Non è detto che tutta la calce veniva da Roma. Secondo un suggerimento di Giorgio Filippi (comunicazione orale del 17.10.2003) è ipotizzabile che almeno una parte delle fornaci si trovasse fuori Roma, nelle stesse zone delle *figlinae*, cfr. Filippi/Stanco 2002.
[44] Abbiamo escluso tutti i campioni di cui non siamo sicuri che si tratti propriamente di carbone. Nella tabella 1 questi campioni sono stati indicati con un punto interrogativo.
[45] Fasola 1976, 9-13.
[46] Sul soffitto ci sono tracce molto svanite di una decorazione a strisce rosse. La decorazione era già svanita ai tempi di Beyer e Lietzmann (1930, 1).
[47] Spiegare queste caratteristiche in base alla *Mishnah*, come fa Fasola 1976, 41, è problematico per diverse ragioni, ma prima di tutto perché sembra piuttosto improbabile che un giudaismo di tipo rabbinico fosse già conosciuto a Roma in quell'epoca.
[48] Fasola 1976, 53 parla di una probabile posteriorità.
[49] Fasola, 1976, 53.
[50] Da ultimo, Rutgers 1998, 66.
[51] Sulle catacombe cristiane, da ultimo Fiocchi Nicolai 2001. E cfr. Pergola 1997.
[52] Si veda L.V. Rutgers, *The Jews of Late Ancient Rome Reconsidered* (in corso di stampa).
[53] Provoost 1970, 24-25 e 43-44, tipo 4. Per esempi recenti dalle catacombe, si veda Felle 1994, 120-121 e Giuliani/Tommasi 1999, 194-196.
[54] Nelle Terme del Nuotatore ad Ostia e nella galleria Bb nella catacomba di Commodilla. Cfr. Provoost 1976, 554-557, tipo 3 e 34-35, tipo 1, variante 2. Su Commodilla, ora Ricciardi 1993.
[55] For permission to study the materials from the St. Callixtus catacomb, I would like to thank the Pontificia Commissione di Archaeologia Sacra and in particular F. Bisconti and R. Giuliani. Financial support was provided by the Netherlands Organization for Scientific Research (NWO).
[56] On the Liberian region in general, see de Rossi 1870, 230-312.
[57] For this identification I would like to thank J. Kirpensteijn of the Faculty of Veterinary Medicine of Utrecht University and Tj. Pot of the 'Archeologisch en Bouwhistorisch Centrum van de gemeente Utrecht'.
[58] Soren/Soren 1999. On pigs in Late Antiquity, see Barnish 1987. And, in general, see now Landon 2005.
[59] On early Christian funerary customs in general, see Fevrier 1984.
[60] For the Jewish catacombs, see above.
[61] On this issue, see e.g. Barrett *et al*. 2000.
[62] See Rutgers *et al*. forthcoming.
[63] Literature on the history of early Christian archaeology is plentiful. Still useful is Ferretto 1942. For a more contemporary approach, see Ghilardi 2003.
[64] This staircase was excavated by Fasola 1980.
[65] On tectonic movements, see Marra *et al*. 2004.
[66] Ferretto 1942, 45-131 reports extensively on the pre-Bosion exploration of the catacombs, including an incomplete resumee of graffiti in Callisto, see p. 73.

BIBLIOGRAFIA/BIBLIOGRAPHY

Adam, J.-P. 1994, *Roman Building. Materials and Techniques*, London.
Baradez, J. 1957, Nouvelles fouilles à Tipasa. Les fours à chaux des constructeurs de l'enceinte, *LibycaBServAnt* 5, 277-294.
Barbera, M./M. Magnani Cianetti 2003, Lo stato attuale delle catacombe Torlonia, in M. Perani (ed.), *I beni culturali ebraici in Italia*, Ravenna, 55-70.
Barnish, S.J.B. 1987, Pigs, Plebeians, and 'Potentates'. Rome's Economic Hinterland c. 350-600 A.D., *BSR* 55, 157-85.
Barrett, J.H. *et al*. 2000, Radiocarbon Dating and Marine Reservoir Correction of Viking Age Christian Burials from Orkney, *Antiquity* 74, 537-43.
Berger, R. 1992, ^{14}C Dating Mortar in Ireland, *Radiocarbon* 34:3, 880-889.
Beyer, H.W./H. Lietzmann 1930, *Die jüdische Katakombe der Villa Torlonia in Rom*, Berlin.
Bisconti, F. 1994, Materiali epigrafici dal cimitero dei SS. Pietro e Marcellino. Spunti e conferme per la cronologia della Regione I, *RACr* 70, 7-42.
Borbein, A.H. 2002, Formanalyse, in T. Hölscher/P. Zanker (ed.), *Klassische Archäologie. Eine Einführung*, Berlin, 109-128.
Canaan, T. 1932, The Palestinian Arab House: Its Architecture, *The Journal of the Palestine Oriental Society* 12, 243.
Cherf, W.J. 1992, Carbon-14 Chronology for the Late-Roman Fortifications of the Thermopylai Frontier, *JRA* 5, 261-264.
Dalman, G. 1942, *Arbeit und Sitte in Palästina* 7. *Das Haus, Hühnerzucht, Taubenzucht, Bienenzucht*, Gütersloh.
Deckers, J.G. *et al.* 1987, *Die Katakombe "Santi Marcellino e Pietro": Repertorium der Malereien*, Münster.
Deckers, J.G. 1992, Wie genau ist eine Katakombe zu datieren? Das Beispiel SS. Marcellino e Pietro, in *Memoria Sanctorum Venerantes. Miscellanea in onore di Mons. Victor Saxer* (Studi di Antichità Cristiana 48) 217-238.
Deckers, J.G. *et al*. 1991, *Die Katakombe "Anonima di Via Anapo": Repertorium der Malereien*, Città del Vaticano.
Deckers, J.G. *et al*. 1994, *Die Katakombe "Commodilla": Repertorium der Malereien*, Città del Vaticano.
Dix, B. 1982, The Manufacture of Lime and Its Uses in the Western Roman Provinces, *OxfJA* 1, 331-345.
Fasola, U.M. 1976, Le due catacombe ebraiche di Villa Torlonia, *RACr* 52, 7-62.

Fasola, U.M. 1980, Indagini nel sopraterra della catacomba di S. Callisto, *RACr* 56, 221-78.
Felle, A.E. *et al*. 1994, Elementi di "Corredo-Arredo" delle tombe del cimitero di S. Ippolito sulla Via Tiburtina, *RACr* 70, 89-158.
Ferretto, G. 1942, *Note storico-bibliografiche di archeologia cristiana*, Vatican City.
Février P. A. 1984, Le culte des morts dans les communautés chrétiennes durant le III siècle, in *Actes du Xe Congrès d'Archéologie Chrétienne (Thessalonique, 28 septembre-4 octobre 1980)*, Vatican City, 211-274.
Février, P-A. 1989, À propos de la date des peintures des catacombes romaines, *RACr* 65, 105-133.
Filippi, G. 1991, Nuovi dati sui laterizi bollati della Catacomba Ebraica di Monteverde, *BMonMusPont* 11, 73-99.
Filippi, G./E.A. Stanco 2002, Opus doliare tiberinum. Un modello per la ricerca dei centri di produzione laterizia, *BMonMusPont* 22, 99-108.
Fiocchi Nicolai, V. 2001, *Strutture funerarie ed edifici di culto paleocristiani di Roma dal IV al VI secolo*, Città del Vaticano.
Fiocchi Nicolai, V. *et al*. 2002, L'ipogeo di "Roma Vecchia" al IV miglio della Via Latina. Scavi e restauri 1996-1997, *RACr* 77, 3-179.
Ghilardi, M. 2003, *Subterranea civitas: quattro studi sulle catacombe romane dal medioevo all'età moderna*, Roma.
Ghilardi, M. 2003, «Del cimiterio de gli antichi Hebrei». La catacomba ebraica di Monteverde nel IV centenario della scoperta, *StRom* 51, 15-43.
Giuliani, R./F.M. Tommasi 1999, Recenti indagini nella catacomba dell'Ex Vigna Chiaraviglio sulla Via Appia Antica, *RACr* 75, 95-231.
Guyon, J. 1987, *Le cimetière aux deux lauriers. Recherches sur les catacombes romaines*, Rome.
Guyon, J. 1994, Peut-on vraiment dater une catacombe? Retour sur le cimetière "Aux deux Lauriers" ou catacombe des saints Marcellin-et-Pierre, sur la via Labicana à Rome, *Boreas* 17, 89-103.
Himmelmann, N. 2000, Klassische Archäologie: kritische Anmerkungen zur Methode, *JdI* 115, 253-323.
Jackson, D.A. 1973, A Roman Lime Kiln at Weekley, Northants, *Britannia* 4, 128-140.
Kingery, W.D. *et al*. 1988, The Beginnings of Pyrotechnology, Part II: Production and Use of Lime and Gypsum Plaster in the Pre-Pottery Neolithic Near East, *JFieldA* 15, 219-245.
Kramer, B./R. Hübner 1976, *Kölner Papyri* (Papyrologica Coloniensia, vol. VIII), Opladen.
Lanciani, R. 1975, *Storia degli scavi di Roma e notizie intorno le collezioni romane di antichità*, Bologna.
Landon, D.B. 2005, Zooarchaeology and Historical Archaeology: Progress and Prospects, *Journal of Archaeological Method and Theory* 12 :1, 1-36.
Lavergne D/F. Suméra 2000, La fabrication de la chaux: une activité pérenne ou occasionnelle pendant l'Antiquité gallo-romaine? Premiers éléments de réponse, in P. Pétrequin *et al*. (ed.), *Arts du feu et productions artisanales* (XXe rencontre internationale d'archéologie et d'histoire d'Antibes), Antibes, 453-472.
Lega, C. 1999, Schola: Calcarienses, in M. Steinby (ed.), *Lexicon topographicum urbis Romae*, Roma, IV, 243-244.
Marra, F. *et al*. 2004, Evidence of Active Tectonics on a Roman Aqueduct System (II-III century A.D.) near Rome, Italy, *Journal of Structural Geology* 26, 679-690.
Martin, R. 1965, *Manuel d'architecture grecque* I. *Matériaux et techniques*, Paris.
Meneghini, R. 1998, Roma. Nuovi dati sul medioevo al Foro e ai Mercati di Traiano, *AMediev* 25, 132-35.
Meneghini, R. 2000, I Fori Imperiali in età post-classica, in S. Baiani/M. Ghilardi (ed.), *Crypta Balbi - Fori Imperiali. Archeologia urbana a Roma e interventi di restauro nell'anno del Grande Giubileo*, Roma 2000, 83-89.
Michalowski, K. 1962, Les fouilles polonaises à Tell Atrib (1957-1959), *ASAE* 57, 9-66.
Mols, S.T.A.M. 2002, Ricerche sulla pittura di Ostia. Status quaestionis e prospettive, *BABesch* 77, 151-174.
Müller, R. 1976, Die ungarischen Kalkbrennöfen, *Zeitschrift für Archäologie des Mittelalters* 4, 77.
Murshi Khadijah, M. 1971, Lime Kilns, *AAJ* 16, 107-109.
Noy, D. 1995, *Jewish Inscriptions of Western Europe* II, Cambridge.
Orlandos, A. 1966, *Les matériaux de construction et la technique architecturale des anciens grecs*, Paris.
Paribeni, R. 1920, Catacomba giudaica sulla Via Nomentana, *NSc* 46, 143-155.
Pergola, P. 1997, *Le catacombe romane. Storia e topografia*, Roma.
Poblome, J. *et al*. 2000, An Early Byzantine Tile and Lime Kiln in the Territory of Sagalassos, in M. Waelkens/L. Loots (ed.), *Sagalassos* V. *Report on the Survey and Excavation Campaigns of 1996 and 1997*, Louvain, 669-683.
Provoost, A. 1970, Les lampes à recipient allongé trouvées dans les catacombes romaines. Essai de classification typologique, *BBelgRom* 41, 17-55.
Provoost, A. 1976, Les lampes antiques en terre cuite. Introduction et essai de typologie générale avec des détails concernant les lampes trouvées en Italie, *AntCl* 45, 550-586.
Renfrew C./P. Bahn, 2000, *Archaeology: Theories, Methods and Practice*, London[3].
Ricciardi, L. 1993, *Catacomba di Commodilla, lucerne ed altri materiali dalle gallerie I, 8, 13*, Roma.
Rossi, G.B. de 1877, *La Roma sotterranea cristiana*, Rome, vol. 3.
Rutgers, L.V. 1990, Überlegungen zu den jüdischen Katakomben Roms, *JbAC* 33, 140-157.
Rutgers, L.V. 1995, *The Jews in Late Ancient Rome. Evidence of Cultural Interaction in the Roman Diaspora*, Leiden.
Rutgers, L.V. 1998, *The Hidden Heritage of Diaspora Judaism*, Louvain.
Rutgers, L.V. *et al*. Radiocarbon Dates from the Catacombs of St. Callixtus in Rome, *Radiocarbon* (forthcoming).
Saguì, L. 1986, Crypta Balbi (Roma): Lo scavo nell'esedra del monumento romano. Seconda relazione preliminare, *AMediev* 13, 345-355.
Serlorenzi, M. 1992, Roma. Scavo delle pendici nord del Palatino. Relazione preliminare della campagna di scavo 1990, *AMediev* 19, 399-401.
Sölter, W. 1970, *Römische Kalkbrenner im Rheinland*, Düsseldorf.
Soren, D/N. Soren 1999, *A Roman Villa and a Late-Roman Infant Cemetery: Excavation at Poggio Gramignano, Lugnano in Teverina* (*Bibliotheca Archaeologica* 23), Rome.
Spycher, H.P. *et al*. 1981, Der römerzeitliche Kalkbrennofen von Vuippens/La Palaz (Kt. Freiburg, Schweiz), *JbGRZM* 28, 171-196.
Strydonck, M.J.Y. van/K. van der Borg/A.F. de Jong/E. Keppens 1992, Radiocarbon Dating of Lime Fractions and Organic Material from Buildings, *Radiocarbon* 34:3, 873-879.
Stuiver, M./P.J. Reimer 1993, Extended ^{14}C Database and Revised Calib 3.0 ^{14}C Age Calibration Program, *Radiocarbon* 35:1, 215-230.
Taylor, R.E. 1997, Radiocarbon Dating, in R.E. Taylor/M.J. Aitken (ed.), *Chronometric Dating in Archaeology*, New York/London, 65-96.
Tolotti, F. 1970, *Il cimitero di Priscilla: Studio di topografia e*

architettura, Città del Vaticano.
Uscatescu, A./M. Martín-Bueno 1997, The Macellum of Gerasa (Jerash, Jordan): From a Market Place to an Industrial Area, *BASOR* 307, 67-88.
Van der Borg, K. *et al*. 1997, Precision and Mass Fractionation in the ^{14}C analysis with AMS, *Nuclear Instruments and Methods in Physical Research* B123, 97-101.
Viaene, W. *et al*. 1997, An Archaeometric Study of Mortars Used at Sagalassos, in M. Waelkens/J. Poblome (ed.), *Sagalassos* IV. *Report on the Survey and Excavation Campaigns of 1994 and 1995*, Louvain, 1997.
Zimmermann, N. 2002a, *Werkstattgruppen römischer Katakombenmalerei*, Münster.
Zimmermann, N. 2000b, Ausstattungen von Haupt- und Nebenräumen. Zur Datierung der Wandmalereien des Hanghauses 2 in Ephesos, in F. Krinzinger (ed.), *Das Hanghaus 2 von Ephesos. Studien zur Baugeschichte und Chronologie*, Wien, 101-117.

INSTITUTE OF HISTORY
UTRECHT UNIVERSITY
KROMME NIEUWEGRACHT 66
NL-3512 HL UTRECHT
leonard.rutgers@let.uu.nl

BABesch 81 (2006, 185-198. doi: 10.2143/BAB.81.0.2014428)

Römische Schönheitspflegemittel in Kugeln und Vögeln aus Glas

Wim Hottentot und Sophia M.E. van Lith

Abstract

*White and pink material from twelve Roman glass birds and spheres has been tested by various analytical methods. X-ray fluorescence proved the main anorganic component to be chalk, gypsum or a mixture of both. Binding agents could not be detected, despite detailed analytical examinations of nine samples. This means that the substance was a powder. Earlier chemical research is summed up and evaluated. Classical sources describing colouring matters and make-up were studied to try to determine the name and nature of the powder. High Performance Liquid Chromatography demonstrated the presence of madder (*rubia*) in six samples from globes. In three of them also henna could be detected. Both pigments are known to the ancient authors, but hardly as ingredients of beauty products. Finally the archaeological context in which the glass containers were found and the cultural context in which they supposedly functioned are described.*

Der Fund eines blauen Glasvogels in einem Grab auf dem Gelände des ehemaligen Canisiuscollege in Nijmegen (*Abb. 1 und 2*) gab Anlass, dessen Inhalt, ein weißes Pulver, analysieren zu lassen.[1] Frühere Untersuchungen des Inhalts von Glasvögeln und -kugeln anderer Fundorte hatten kaum zu eindeutigen Resultaten geführt (Par. 2). Mittels einer Röntgenfluoreszenzanalyse (XRF) wurde festgestellt, dass der Inhalt des Nijmegener Vogels Gips oder Kalziumsulfathydrat ($CaSO_4.2H_2O$) ist. Um dieses Ergebnis zu überprüfen, wurden die anorganischen Komponenten dreier Vögel und zweier Glaskugeln untersucht, die im Museum Het Valkhof in Nijmegen (ehemals Museum G.M. Kam) aufbewahrt werden. Einmal war das Ergebnis erneut Gips, zweimal Kreide oder Kalziumkarbonat ($CaCO_3$) und zweimal eine Mischung aus Gips und Kreide. Zum Vergleich wurde der Inhalt eines Vogels aus einer Privatsammlung analysiert. Er enthielt ebenfalls Gips. Schließlich wurden fünf weitere Glaskugeln, je eine aus Vechten und Moyland (Krs. Kleve), und drei aus Xanten untersucht. Die Analyse der anorganischen Komponenten steht in Einklang mit den Ergebnissen aus Nijmegen. Insgesamt sind zwölf Proben mittels XRF auf anorganische Komponenten untersucht worden (*Tabelle 1*).

Neun der Proben wurden mit unterschiedlichen analytischen Methoden auf organische Bindemittel überprüft. Es konnten keine Bindemittel festgestellt werden. Wichtiges Ergebnis ist also, dass der Inhalt der Vögel und Kugeln keine Salbe oder Creme, sondern Streupulver ist.

Die Analyse mittels HPLC (Hochleistungs-

Abb. 1. Nr. 1. Nijmegen, Canisiuscollege, Gräberfeld CC. Vogel aus hellblauem Glas. Foto Radboud Universiteit, Nijmegen.

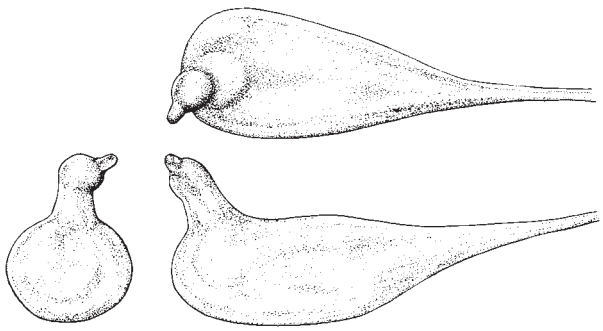


Abb. 2. Nr. 1. Nijmegen, Canisiuscollege, Gräberfeld CC. Vogel aus hellblauem Glas. Zeichnung R.P. Reijnen, Radboud Universiteit Nijmegen. Maßstab 1:2.

Nr.	Al	Si	Mn	S	Hg	Ca	Ti	Cr	Fe	Cu	Zn	As	Pb
1				■		■		▲	▲	▲	▲	▲	
2		●				■	▲	▲	▲		▲		▲
3				●		■	▲	▲	▲		▲	▲	▲
4				●		■		▲	▲		▲		▲
5				■		■	▲	▲	▲	▲	▲		▲
6						■	▲	▲	▲	▲	▲		
7				■		■	▲	▲	▲		▲		▲
8						■		▲	▲	▲	▲		▲
9						■		▲	▲	▲	▲		▲
10	▲	■				▲		▲	▲	▲	▲		▲
11				■		■		▲	▲	▲	▲		▲
12	■	●				▲		▲	▲	▲	▲		▲

Tabelle 1. Röntgenfluoreszensspektrometrie (XRF).
■ *Hauptkomponente* ● *Nebenkomponente* ▲ *Spuren*

Flüssigkeitschromatographie) des rosafarbenen Pulvers in drei Glaskugeln zeigte, dass es sich bei dem Farbmittel um Purpurine (*rubia*) handelt. Es betrifft eine Kugel aus einem Grab in der Museum-Kamstraße, Nijmegen, und die Kugeln aus Vechten und Moyland (Krs. Kleve). In den drei Kugeln aus Gräbern in Xanten wurde neben Purpurine auch Henna (*Lawsonia inermis* L.) als Pigment festgestellt. Für unsere Untersuchungen konnten wir leider nicht über rosafarbenes Pulver aus Vögeln verfügen.

1. DIE ANALYSIERTEN OBJEKTE

1.1. Vögel und Glaskugeln aus Nijmegen

Im Museum Het Valkhof in Nijmegen werden fünf römische Glasvögel (Isings Form 11)[2] aufbewahrt (der Fund aus dem Canisiuscollege einbegriffen). Von vier Exemplaren konnte der Inhalt, ein weißes Streupulver, analysiert werden. Es handelt sich um ein Schönheitspflegemittel. Außerdem konnten zwei Glaskugeln (Isings Form 10) Proben entnommen werden. Eine Kugel enthielt ein weißes Pulver, die zweite ein rosafarbenes.

1. Vogel aus hellblauem Glas
(*Abb. 1 und 2*). Kopf nach links gerichtet, Schnabel nach links und nach oben. Sehr kurzer Hals. Hervortretende Brust. Der Bauch ist eingedellt, so dass der Vogel stehen kann. Sehr dünnes, durchscheinendes, hellblaues Glas mit einigen Bläschen. Gute Qualität. Schwanzende abgebrochen. Weißes Pulver im ganzen Kopf und Körper, stark verklumpt. Länge 11.2 cm; Höhe 4.5 cm; Höhe Hals

Abb. 3. Links: Nr. 3. Nijmegen, Gräberfeld S (?). Vogel aus blauem Glas. Rechts: Nr. 2. Nijmegen, Hunerberg, Grabfund (?). Vogel aus hellblaugrünem Glas. Foto Museum Het Valkhof, Nijmegen. Maßstab 1:3.

1.7 cm; Durchmesser der Öffnung am Schwanzende 0.2 cm.
Analyse des weißen Pulvers: Gips ($CaSO_4.2H_2O$).
Fundort: Nijmegen, Gelände des ehemaligen Canisiuscollege, Gräberfeld CC, aus einem geplünderten Grab. Fundnr. CA 1996.9393.n, Grabungsfläche 114. Haalebos 1998, 24.
Mitfunde: Zersplitterte Kugel aus dunkelblauem Glas, Öllampe, sog. Münzmeister-As mit Nachprägung des Tiberius (14-37 n.Chr.), rauwandiges Schälchen (Stuart 209).
Datierung: tiberisch.

2. Vogel aus hellblaugrünem Glas
(*Abb. 3*, rechts). Vogel mit relativ langem Hals, dickem Kopf und unregelmäßigem Schnabel. Hervortretende Brust. Der Bauch ist leicht eingedellt. Großer Teil des Schwanzendes abgebrochen. Dünnes, hellblaugrünes Glas, fast farblos, leicht irisierend. Von mangelnder Qualität. Länge 11.5 cm; Höhe 8.6 cm; Durchmesser der Öffnung am Schwanzende 0.7 cm.
Analyse des grauen Pulvers: 20% Kreide ($CaCO_3$) und 80% Quarz (SiO_2). Der Quarz muss wegen seiner groben Struktur und seiner grauen Farbe als Verunreinigung betrachtet werden.
Fundort: Nijmegen, Hunerberg (1889), wohl Grabfund. Inv. Nr. BC.I .59.
Mitfunde: unbekannt.
Datierung: unbekannt.

3. Vogel aus blauem Glas
(*Abb. 3*, links). Vogel mit schmalem, langem Hals, schlankem Kopf und kurzem, rundem Schnabel. Der Bauch ist vergleichsweise flach, aber nicht eingedellt. Schwanzende abgebrochen. Hauchdünnes, blaues Glas mit vielen Verunreinigungen.

Abb. 4. Nr. 4. Nijmegen, Gräberfeld S. Vogel aus hellblaugrünem Glas. Foto Museum Het Valkhof, Nijmegen. Maßstab ca. 1:2.

Abb. 5. Nr. 5. Nijmegen, Museum Kamstraat, Grab 106. Schminkkugel aus blauem Glas. Foto Museum Het Valkhof, Nijmegen. Maßstab ca. 1:2.

Länge 13.5 cm; Höhe 9 cm; Höhe Hals 5.5 cm; Durchmesser der Öffnung am Schwanzende 0.35 cm.
Nach Kam 1905, 52, konnte ein Vogel aus blauem Glas nicht analysiert werden, da er unversehrt war. Inhalt: 'eine große Menge weißen Pulvers, das sich lose im Vogel bewegt'. Er ist wohl mit unserer Nummer 3 gleichzusetzen. Der Schwanz kann nach 1905 abgebrochen sein.
Analyse des weißen Pulvers: 85% Gips ($CaSO_4.2H_2O$); 15% Kreide ($CaCO_3$).
Fundort: Nijmegen, Gräberfeld S (?). Inv. Nr. XX.a.145.
Mitfunde: unbekannt.
Datierung: unbekannt.

4. Vogel aus hellblaugrünem Glas
(*Abb. 4*). Vogel mit kurzem Hals, hervortretender Brust und dickem, rundem Bauch. Schnabel, Hinterleib und Schwanz fehlen. Hellblaugrünes, hauchdünnes Glas von mangelnder Qualität. Länge 7.5 cm; Höhe 5.8 cm; Höhe Hals 2.5 cm.
Analyse des weißen Pulvers: 85% Gips ($CaSO_4.2H_2O$); 15% Kreide ($CaCO_3$). Dieser Vogel wurde bereits vor ungefähr hundert Jahren analysiert (Analyse H.L.Visser in Kam 1905, 53, vgl. unten 2.2).
Fundort: Nijmegen, Gräberfeld S (Frühjahr 1903). Inv. Nr. XX.a .146.
Mitfunde: unbekannt.
Datierung: unbekannt.

5. Kugel aus blauem Glas
(*Abb. 5*). Glaskugel mit Rest des leicht ausbiegenden Halses. Durchscheinendes, hauchdünnes, blaues Glas. Mittelmäßige Qualität. Höhe 7.5 cm; Durchmesser 7 cm; Höhe Hals 0.3 cm.
Analyse des rosafarbenen, teils weißen Pulvers: Gips ($CaSO_4.2H_2O$) und als Farbmittel Purpurine.
Fundort: Nijmegen, Museum Kamstraat, Grabfund, Grabungen ROB 1976. Fundnr. 105/106.
Mitfunde: Salbflasche Isings Form 8; Gefäßkeramik (zwei Scherben handgefertigter Ware, Teller Holwerda 77, Urne Holwerda 26, Krug Hofheim 50, Kochtopf Stuart 201); As des Caligula (RIC 58, 37-41 n. Chr.); fünf Scharnierfibeln; Armreif aus Bronze.
Datierung: Mitte des 1. Jh. n.Chr.

6. Kugel aus blauem Glas
Kugel aus hauchdünnem, blauem Glas mit einigen Blasen, irisierend. Gute Qualität. Höhe 8 cm; Durchmesser 7.5 cm; Höhe Hals 0.3 cm; Durchmesser Hals 0.8 cm.
Analyse des weißen Pulvers: Kreide ($CaCO_3$).
Fundort: Nijmegen, Hunerberg. Inv. Nr. BC.I.70.
Mitfunde: unbekannt.
Datierung: unbekannt.

1.2. Vogel aus einer Privatsammlung

7. Vogel aus dunkelgrünem Glas
Vogel mit kurzem Hals, hervortretender Brust und rundem Bauch, weshalb er nicht stehen kann. Der Kopf fehlt. Schwanzende abgebrochen. Dunkelgrünes Glas mit Blasen. Länge 18.3 cm.
Analyse des weißen Pulvers: Gips ($CaSO_4.2H_2O$).
Fundort: Ungewiss, möglicherweise in der Nähe von Aquileia (Norditalien).[3]
Mitfunde: unbekannt.
Datierung: unbekannt.

1.3. Glaskugeln aus Moyland und Vechten

8. Zerstörte Kugel aus hellblaugrünem Glas
Kugel aus hellblaugrünem, fast farblosem Glas von mangelnder Qualität. Höhe 8 cm; Durchmesser 8 cm.
Analyse des rosafarbenen Pulvers: Kreide ($CaCO_3$) und als Farbmittel Purpurine.
Fundort: Moyland (Krs. Kleve), wohl aus einer Brandbestattung.
Aufbewahrungsort: Centraal Museum Utrecht, Sammlung Provinciaal Utrechts Genootschap (PUG), Inv. Nr. N 31 (alt); Inv. Nr. 6984 (neu).
Mitfunde: unbekannt.
Datierung: unbekannt.

9. Stark zerstörte Kugel aus farblosem Glas
Kugel aus hauchdünnem, farblosem Glas, sehr fragmentarisch erhalten.
Analyse des rosafarbenen Pulvers: Kreide ($CaCO_3$) und als Farbmittel Purpurine.
Fundort: Vechten, Grabungen Holwerda-Remouchamps, 1920.
Aufbewahrungsort: Centraal Museum Utrecht, Sammlung Provinciaal Utrechts Genootschap (PUG), Inv. Nr. 1920-8.
Mitfunde: unbekannt.
Datierung: unbekannt.

1.4. Glaskugeln aus Gräbern in Xanten

10. Kugel aus entfärbtem Glas
Kugel aus entfärbtem Glas mit bläulichem Schimmer. Durchmesser 7.6 cm.
Analyse des rosafarbenen Pulvers: Quarz (SiO_2), von so feiner Struktur, dass das Pulver wohl als Schönheitsmittel verwendet wurde, als Farbmittel 59% Purpurine und 41% Henna.
Fundort: Xanten, Gebiet der CVT, Grab 9, 27, Fundnr. C 3856. Hinz 1984, 311, Taf. 121, 4; Taf. 99,19 rechts.
Aufbewahrungsort: Regionalmuseum Xanten.
Mitfunde: Hinz 1984, 311-313, u.a. zerstörter Vogel und drei weitere Glaskugeln.
Datierung: wohl Caligula bis (früh-) Claudius.

11. Kugel aus entfärbtem Glas
Kugel aus entfärbtem Glas. Durchmesser 7.2 cm.
Analyse des rosafarbenen Pulvers: Gips ($CaSO_4.2H_2O$), als Farbmittel 50% Purpurine und 50% Henna.
Fundort: Xanten, Gebiet der CVT, Grab 11, 20, Fundnr. C 3858. Hinz 1984, 316 Taf. 125, 6; Taf. 99,17.
Aufbewahrungsort: Regionalmuseum Xanten.
Mitfunde: Hinz 1984, 315-317, u.a. zwei weitere Glaskugeln, unsere Nummer 12 (Grab 11, 22) und Dietrich und Forg 1984, 359 (Grab 11, 21).
Datierung: claudisch.

12. Kugel aus entfärbtem Glas
Kugel aus entfärbtem Glas. Durchmesser 6.7 cm.
Analyse des rosafarbenen Pulvers: 80% Aluminiumsilikat ($Al_2O_3.SiO_2$) und 20% Quarz (SiO_2), als Farbmittel 92% Purpurine und 8% Henna. Der Quarz muss wegen seiner groben Struktur als Verunreinigung betrachtet werden.
Fundort: Xanten, Gebiet der CVT, Grab 11, 22, Fundnr. C 3858. Hinz 1984, 316, Taf. 125, 5; Taf. 99,17.
Aufbewahrungsort: Regionalmuseum Xanten.
Mitfunde: Hinz 1984, 315-317, u.a. zwei weitere Glaskugeln, unsere Nummer 11 (Grab 11, 20) und Dietrich und Forg 1984, 359 (Grab 11, 21).
Datierung: claudisch.

2. QUALITATIVE CHEMISCHE ANALYSE UND BEWERTUNG VORHERGEHENDER UNTERSUCHUNGEN

2.1. Qualitative chemische Analyse

Mittels Röntgenfluoreszenzanalysen (XRF) wurde festgestellt, dass der anorganische Bestandteil unserer Proben fast ausnahmslos Gips (Kalziumsulfathydrat, $CaSO_4.2H_2O$) oder Kreide (Kalziumkarbonat, $CaCO_3$) ist. Eine Mischung aus 85% Gips und 15% Kreide wurde in den Nijmegener Vögeln Nr. 3 und Nr. 4 gefunden. Nur zweimal setzt sich der Inhalt aus anderen Komponenten zusammen. Eine Kugel aus Xanten Grab 9, 27 (unsere Nr. 10) ist mit Quarz (SiO_2) gefüllt, aber von so feiner Struktur, dass das Pulver wahrscheinlich als Schönheitsmittel verwendet wurde. Es betrifft also nicht eine Verunreinigung durch Quarz, wie in den Nummern 2 und 12. Die Kugel aus Xanten Grab 11, 22 (unsere Nr. 12) hat als einzige statt Gips oder Kreide einen sehr hohen Prozentsatz an Aluminiumsilikat ($Al_2O_3.SiO_2$).

Neun der Proben wurden erneut untersucht, um ein organisches Bindemittel nachzuweisen bzw. auszuschließen.[4] Um festzustellen, ob Stärke und Eiweiß vorhanden ist, wurden sogenannte 'Spottests' durchgeführt. Mit Hilfe einer FTIR-Spektroskopie (*Fourier-Transform Infrared Spectrometry*) wurde das Gemisch auf Leim, Harz und Gummi untersucht. Schließlich wurde Gaschromatographie-Massenspektrometrie (GC-MS) angewendet, um das mögliche Vorhandensein von Ölen und Fetten nachzuweisen. In den untersuchten Proben konnten keine organischen Binde-

mittel festgestellt werden. Hieraus geht hervor, dass es sich bei dem Inhalt unserer Vögel und Kugeln um Streupulver handelt.

Die Kugeln 5, 8 und 9 enthielten ein rosafarbenes Pulver. Mittels Hochleistungs-Flüssigkeitschromatographie (HPLC) konnte festgestellt werden, dass der Farbstoff 'Purpurine' oder *rubia* ist. Laut den literarischen Quellen war *rubia* (Krapp) im Altertum ein von alters her bekanntes rotes Pigment. Soviel wir wissen, ist es das erste Mal, dass *rubia* in römischen Behältern nachgewiesen werden konnte. In drei zur Überprüfung untersuchten Kugeln aus Xanten wurde mittels HPLC neben Purpurine auch ein beträchtlicher Anteil an Henna (*Lawsonia inermis* L.) als Farbmittel vorgefunden (41, 50 und 8%). Henna ist bisher, soweit uns bekannt, ebensowenig wie *rubia* in römischen Behältern belegt worden.

Für Gips als weißes und Krapp als rosa Farbmittel haben wir interessante Parallelen gefunden. Schon 1892 wurde eine Analyse veröffentlicht, die im vorliegenden Fall wichtig ist. Der Chemiker W.J. Russell untersuchte verschiedene Farben, die in einem Grab aus römischer Zeit zu Hawara (Ägypten) in sechs kleinen Farbtöpfen entdeckt wurden. Das weiße Pigment erwies sich als Gips (Kalziumsulfat). Das rosa Pigment wurde von Russell als eine Mischung aus Gips und Krapp identifiziert. Um die Zusammensetzung des Farbmittels nachweisen zu können, benutzte Russell bereits die Methode der Spektralanalyse, die zu unwiderlegbaren Resultaten führte.[5]

Fünf rosa bis rötliche Proben aus Korinth und von der Agora in Athen, die in die zweite Hälfte des 2. Jahrhunderts v.Chr. datierbar sind, wurden 1951 von Marie Farnsworth beschrieben. Die Pigmente konnten spektroskopisch als Purpurine identifiziert werden, aber dieses Mal nicht auf einer Gipsbasis, sondern in Verbindung mit Aluminiumoxid, d.h. Tonerde.[6]

Die Konzentration der Purpurine in den Proben aus Nijmegen und Moyland ist niedrig. Es ist dann auch nicht auszuschließen, dass ursprünglich in diesen Kugeln (und vielleicht auch in der Kugel aus Vechten) ein Gemisch aus Purpurine und Henna enthalten war und dass das Henna in diesen letzten drei Behältern wegen seines niedrigen Gehaltes nicht nachgewiesen werden konnte.

Purpurine wurde aus den Wurzeln der Krapppflanze (*rubia*) gewonnen. Die Kulturpflanze (*Rubia tinctorum L.*) enthält neben Purpurine einen hohen Prozentsatz an ebenfalls roter Alizarine (60-80%). Die wild wachsenden Pflanzen (*Rubia peregrina L.*) enthalten mehr als 95% Purpurine und kaum Alizarine.

Alizarine konnte in den analysierten Proben nicht nachgewiesen werden. Deshalb muss angenommen werden, dass für die Färbung des Inhalts der hier untersuchten Kugeln wilder Krapp benutzt worden ist. Auch Farnsworth fand Purpurine und nicht Alizarine.

Henna wurde bisher nicht als römisches Pigment beschrieben.

2.2. Bewertung vorhergehender Untersuchungen

G.M. Kam war 1904 der erste, der eine ernst zu nehmende qualitative chemische Analyse veranlasste. Die von H.L. Visser (Nijmegen) durchgeführte Untersuchung einer Probe weißen Pulvers aus einem Glasvogel vom Typus Isings 11 (Nr. 4 hieroben) führte zu der Schlussfolgerung, dass es sich um eine Mischung aus Kalziumsulfat (Gips) und Kalziumkarbonat (Kreide) handelt. Das rosafarbene Pulver, das aus einem Glasballon Typus Isings 10 herrührte, war weniger eindeutig analysierbar. Nach mancherlei Versuchen meinte Visser, 'dass folgende Zusammensetzung die wahrscheinlichste sei: Aluminiumsilikat (*Bolus alba* oder *argilla*), vermischt mit Kalziumkarbonat, Natriumphosphat und pflanzlicher Substanz, nebst einem roten Farbstoff, vielleicht von Letzterer hervorgerufen.' Leider ist in dieser Kugel, die in die Kollektion des Nijmegener Museums Het Valkhof übergegangen ist, nicht mehr ausreichend Pulver vorhanden, um den roten Farbstoff nochmals analysieren zu können.[7] Visser betonte, dass ihm in beiden Fällen 'keine zufällige Bestandteile vorlagen, sondern mit Absicht hergestellte Gemische'. Auch stellte sich heraus, 'dass die vorgefundenen Substanzen nicht die Reste salbiger oder mit fettem Öl hergestellter Gemische, sondern Streupulver waren'.[8] Aluminiumsilikat (Tonerde) konnte jetzt in einer Kugel aus Xanten nachgewiesen werden (Nr. 12). Auch Farnsworth fand, wie wir gesehen haben, Tonerde als Bestandteil eines Pigments (vgl. Anm. 6). Vissers Befund wurde leider kaum Beachtung geschenkt, wahrscheinlich weil er auf Niederländisch veröffentlicht wurde.

Seit Vissers Untersuchung kam man daher bislang nicht viel weiter. Uns sind nur wenige qualitative chemische Analysen der Inhalte der Typen Isings 10 und 11 bekannt, bei denen, sofern sie überhaupt verantwortet werden, sehr verschiedene Untersuchungsmethoden angewendet worden sind, so dass die Befunde meistens kaum vergleichbar sind. Oft is auch nicht recht deutlich, ob nur die anorganischen Bestandteile des Pulvers analysiert wurden, oder auch die eventuell vorhandenen organischen.

Eine noch frühere chemische Analyse als die oben erwähnte von Visser wird von Kam in seinem Aufsatz zitiert: Bei einer 'Schminkkugel' (Glaskugel Typus Isings 10) im Landesmuseum Trier stellte der Chemiker Schnell fest, 'dass der Inhalt lediglich aus eingedrungenem Lehm bestand. Reste von Fett oder Öl konnten nicht constatiert werden.'[9]

1955 wurde von C.A. Salemink im Laboratorium für Organische Chemie der Universität Utrecht eine rosafarbige Probe, die dem Fragment einer Glaskugel Isings 10 aus Vechten entnommen wurde, nach der chromatographischen Methode getestet. Das Ergebnis war eindeutig: Das anorganische Pulver setzte sich aus auffällig reinem Mangankarbonat ($MnCO_3$) und wenig Mangansulphit ($MnSO_3$) zusammen. Auch Salemink folgerte, dass solches Pulver nicht das Sediment einer Salbe sein könne, sondern als Puder betrachtet werden müsse.[10] Seine Erkenntnisse sind übrigens einmalig. Bei allen sonstigen Analysen wurde kein oder nur sehr wenig Mangan ermittelt.

Simonetta Biaggio Simona verwies 1991 nicht ohne Skepsis auf eine schlecht belegte Analyse aus den vierziger Jahren des letzten Jahrhunderts, nach der in einem Vogel aus Locarno weinartige Ablagerungen oder die Ablagerung einer Mischung aus Wein mit einer harzigen Substanz festgestellt seien.[11]

Eine spätere Analyse des Inhalts eines Vogels aus Gropello Cairoli, bei der sich weiße und rosafarbene Körner in Salzsäure (HCl) entweder lösten (Fazit: Karbonate) oder nicht (Fazit: Kieselerde, Silikate), wird von Biaggio Simona als 'nicht erfolgreich' abgetan, weil sie, ebenso wie die Autorin der Erstpublikation dieser Untersuchung, M. Fortunati Zuccala, meint, eine sekundäre, sandige Substanz sei in das Glas eingedrungen.[12] Das ist selbstverständlich durchaus möglich (vgl. unsere Nr. 2 und 12), aber aufgrund unserer Befunde scheint es ebenso gut denkbar, dass die Karbonate und/oder Silikate zum ursprünglichen Inhalt des Vogels gehört haben (vgl. unsere Nr. 10). Silikate wurden übrigens auch in Kreta und Spanien als Bestandteile des Pulvers belegt (vgl. hier unten).

Ähnliche Skepsis der eigenen Analyse gegenüber hatte 1982 R.E. Jones gezeigt. Es handelt sich dabei um den Inhalt einer Glaskugel Isings 10. Im gleichen Grab in Knossos wurde allerdings auch ein Glasvogel Isings 11 zutage gefördert, mit einem ähnlichen Gemisch aus Schlamm oder Lehm und Pulver, dessen Inhalt offensichtlich nicht analysiert worden ist. Eine mikroskopische Untersuchung zeigte, dass das Pulver der Glaskugel aus einzelnen roten, rosa und weißen Teilchen bestand und organische Komponenten ausschloss. Auch war eine geringe Menge Quarz (d.h. SiO_2, Kieselerde, Silikat) zu sehen. Die analytischen Untersuchungen wurden von Dr. V. Perdikatsis vom Geologischen Institut in Athen durchgeführt. Röntgenbeugung (XRD) wies 'nur Kalzit' aus und Röntgenfluoreszenzanalyse 'deutete darauf hin, dass die (rosarote) Farbe höchstwahrscheinlich auf Eisen zurückzuführen war'. Schlussfolgerung: Das Pulver ist roter Ocker und der Kalzit eine Ablagerung, die während der Beerdigung eingedrungen sein muss.[13] Ocker ist eine Tonerde, deren Farbtöne durch den Eisenoxidgehalt verursacht werden.

Kalzit oder Kalkspat ist die weit verbreiteste natürliche Erscheinungsform des Kalziumkarbonats, $CaCO_3$. Es ist die Hauptkomponente von Kalkstein, Marmor und Kreide. Auch in der modernen Zeit, bis zur Mitte des 20. Jahrhunderts, wurde es bei der Herstellung von Toilettenartikeln (Puder, Zahnpasta) verwendet.[14] Mann könnte die Kreide daher durchaus als Teil der Hauptmasse des ursprünglichen Inhalts dieses gläsernen Behälters betrachten, wie es auch in unseren Proben der Fall ist.

A. Dietrich und M. Forg analysierten 1984 das rosafarbene Pulver aus einem Glasballon Isings 10, der in Xanten ausgegraben worden war. Das Ergebnis ihrer Untersuchung erregt im Lichte der bisherigen Befunde sicher Aufsehen. Es handelte sich um 'Bleicherden mit einer ungewöhnlich hohen Anreicherung an Seltenen Erden'. Bleicherde ist die Bezeichnung mehrerer Tonerden, die alle eine absorbierende und entfärbende Wirkung haben. Wie die Bleicherden zusammengesetzt sind, wird leider nicht erwähnt, obwohl sie offenbar Aluminium (als Aluminiumoxid oder Aluminiumsilikat?) enthalten. Die Seltenen Erden verursachen die rosa Farbe: 'Neben Aluminium enthält der Schminkstoff dafür als farbgebende Komponente Seltene Erden wie Lanthan, Neodym und Praseodym, welche teilweise als Karbonate vorliegen.'[15] Den Lesern werden keine Prozentsätze geliefert, so dass es nicht möglich ist, zu entscheiden, wie hoch denn 'ungewöhnlich hoch' ist. Die Forscher wissen auch, woher diese farbgebenden Komponenten stammen, nämlich aus 'Orthieinsprenglingen in den Gesteinen der Albaner Berge und des Vesuvs, die aus Pegmatiten sowie Restkristallisationen von Lavamassen herrühren'. Die schwerfällige Formulierung scheint Ungewissheit zu verhüllen. Außerdem wurden bisher noch keine Produktionsstätten in Latium oder in Kampanien ausgegraben. Die von Dietrich und Forg analysierte Kugel kommt, ebenso wie unsere Nr. 11 und 12, aus dem Xantener Grab 11. Im Lichte unserer

Resultate wäre es vielleicht logischer, die Karbonate und die Tonerde als die Hauptmasse des Pulvers aufzufassen. Wahrscheinlich haben Dietrich und Forg deswegen keine HPLC-Analysen durchgefuhrt, weil sie meinten, in den Seltenen Erden schon das Pigment gefunden zu haben.

Die jüngste Untersuchung, die uns bekannt ist, ist die einzige, in der die Untersuchungsmethoden sorgfältig verantwortet werden.[16] Bei Ausgrabungen in der römischen *colonia* Celsa (heute in der spanischen Provinz Zaragoza gelegen, ungefähr 55 km südöstlich ihrer gleichnamigen Hauptstadt) wurden in einem Haus der Kopf und Hals eines Vogels Isings 11 mit Spuren eines roten Pulvers entdeckt. Durch Röntgendiffraktometrie (XRD) der Substanz konnte man eine Mischung aus Gips und Kalzit nachweisen, möglicherweise mit einer geringen Menge Hematit (Fe_2O_3), was die rote Farbe erklären würde. Eine sogenannte PIXE-Analyse (*Particle Induced X-ray Emission*) konnte die Daten erheblich verfeinern. Es stellte sich heraus, dass die Probe 25% Kreide, 25% Eisenoxid, 21% Silikate, 18% Gips und 6.3% Aluminiumoxid enthielt. Im Vergleich mit unseren Resultaten fällt nur das Eisenoxid auf. Auch die organischen Bestandteile des Pulvers wurden untersucht, aber die Ergebnisse blieben reichlich vage. Zwei Stoffe wurden in sehr niedriger Konzentration festgestellt, der erste vielleicht 'ein Nebenprodukt von Cholesterin', der zweite 'möglicherweise ein aliphatischer Alkohol'. Eine Gaschromatographie-Massenspektrometrie-Analyse (GC-MS), wie wir sie haben ausführen lassen, hätte hier Sicherheit bringen können. Die Autoren meinen, es könnten Spuren eines natürlichen Harzes sein, durch den das Make-up leichter aufgetragen werden konnte. Dazu bemerken wir, dass dies eher unglaubwürdig scheint, da die Substanz nur als Streupulver aus dem kleinen Loch im Schwanz ausgeschüttelt werden konnte. Zwei alternative und wahrscheinlichere Hypothesen werden nur angedeutet: Es könnten auch Spuren eines Riechstoffes oder eines Pigments sein.

An einer Scherbe, die in Celsa ebenfalls in einem zivilen Kontext vorgefunden wurde und die wahrscheinlich Teil einer Glaskugel Isings 10 war, klebte eine kompakte rosafarbige Masse. Röntgendiffraktometrie (XRD) konnte in diesem zweiten Fall nur das Vorhandensein von Gips belegen. PIXE-Analyse führte zu folgendem Ergebnis: 39% Gips, ein nicht deutlich angegebener, aber hoher Prozentsatz Kreide (nach unseren Berechnungen ca. 42%), 7.9% Silikate, 4% Aluminiumoxid und nur ungefähr 0.25% Eisenoxid! Die Autoren sind der Meinung, dass ihre Resultate am meisten mit denen von Jones vergleichbar sind, der in seinem kretensischen Material auch roten Ocker als Pigment, sowie Kalzit und Quarz als weitere Substanzen nachgewiesen hatte. Das Schönheitsmittel wäre dann übrigens *rubrica* (Rötel), denn das ist mit Ton vermengter Eisenoxid (Hematit, Fe_2O_3).[17]

Schließlich muss noch ein einmaliges und einigermaßen verdächtiges Vögelchen aufgeführt werden, das sich im Museo di Antichità in Turin befindet und angeblich aus einem Grab in Rovasenda zutage kam. Der Schwanz ist heil und der Inhalt ist ausnahmweise nicht ein Pulver, sondern eine Flüssigkeit. In Publikationen wird zwar behauptet, dieser Inhalt sei Rosenessenz,[18] aber, soweit wir wissen, gründet diese Folgerung nicht auf einer chemischen Analyse oder empirischen Untersuchung. Das Gleichnis mit der frühesten 'Analyse' (aus 1852) drängt sich auf. Da hieß es, der flüssige Inhalt einer Glaskugel aus Bigonville, Luxemburg, bestehe aus Tränen.[19]

3. GESCHRIEBENE QUELLEN

Die schriftlich überlieferten Informationen über Schminkstoffe und Schönheitsmittel rühren zum Teil aus Quellen her, die solche Mittel negativ bewerten oder lächerlich machen (Komödie, Satire, Epigramm, Roman: Plautus, Juvenal, Martial, Petron). Der Konsum an Kosmetik wird reichlich übertrieben, wobei die Ausnahme zur Regel erklärt wird. Exemplarisch sei hier die freche Schwuchtel (*cinaedus*) angeführt, die Encolpius das Leben zu versüßen versucht: *super inguina mea diu multumque frustra moluit. Perfluebant per frontem sudantis acaciae rivi, et inter rugas malarum tantum erat cretae, ut putares detectum parietem nimbo laborare* 'er strengte sich lange und fleißig unten auf meinem Bauch an, aber ohne Erfolg. In Strömen floss dem Schwitzenden die Haarlotion über die Stirn, und in den Runzeln seiner Wange war so viel Schminke, dass man hätte glauben können, eine Wand ohne Dach habe unter Regen zu leiden' (Petr. 23.5).

Ludwig Friedländer merkte vor mehr als hundert Jahren treffend auf: 'Dazu kommt, dass zufälligerweise gerade die drei Schriftsteller, denen wir hauptsächlich die Nachrichten über den römischen Luxus verdanken, Varro, Seneca und der ältere Plinius, Männer von besonders einfachen und strengen Gewohnheiten, ja von einer grundsätzlichen Enthaltsamkeit waren, deren Ansichten die durchschnittlichen ihrer Zeitgenossen gewiss an Strenge übertrafen.'[20] Neros zweite Ehefrau Poppaea leistete sich angeblich eine Herde von fünfhundert Eselinnen, die gerade gefohlt hatten, damit sie sich täglich in deren Milch baden konnte

(Cassius Dio 62.28). Doch heißt das nicht, dass frische Eselinnenmilch ein übliches Mittel zur Hautpflege war, auch nicht, wenn Plinius *Naturalis Historia* 28.183 meldet, es sei allgemein bekannt, dass manche Frauen sich sieben Mal pro Tag die Wangen damit hegen und pflegen. Und das Mittel wird nicht dadurch üblicher, dass Juvenal in der frauenfeindlichen sechsten Satire eine namenlose Frau einführt, die sich behandeln lässt:

illo lacte fovetur
propter quod secum comites educit asellas
exul Hyperboreum si dimittatur ad axem

'mit der Milch, wofür sie, ginge es ins Exil zum Nordpol, ein Gefolge von Eselinnen mit sich führen würde' (Juv. *Sat*. 6.468-470).

Die literarische Eigenart der Quellen macht sie oft nicht repräsentativ für den Alltag der Römer, weder in Rom noch in den Provinzen.[21] Sie sind mit Vorsicht zu bewerten. Andererseits gehört moderate Ablehnung von Kosmetika durchaus zu den guten römischen *mores*, wie z.B. in Plautus' *Mostellaria* 258 ff., in der Philematium sich mit *cerussa*, *purpurissum* und *unguenta* schminkt. Ihre Sklavin Scapha vertritt die Stimme der Sittenprediger, die sich im Laufe der Jahrhunderte nicht ändert (Z. 263-4):

Non istanc aetatem oportet pigmentum ullum attingere, neque cerussam neque Melinum neque aliam ullam offuciam.

'Ein Mensch in deinem Alter sollte gar kein Make-up anrühren, weder Bleiweiß noch Melos-Weiß noch eine andere Schminke.'

Die (sprichwörtlich gewordene) Moral folgt Z. 273:

mulier recte olet, ubi nil olet.

'eine Frau riecht erst gut, wenn sie nach nichts riecht.'[22]

Die charakteristische Ausnahme ist der skeptische Ovid, der über Make-up nicht nur nicht moralisiert, sondern große Teile der *Ars Amatoria* und das überlieferte Fragment der *Medicamenta Faciei* gerade der Kosmetik widmet. Die übrigen Autoren sehen Schmink- und Schönheitsmittel fast alle als etwas Problematisches oder Lächerliches, mit dem sich im Prinzip nur Dirnen und *cinaedi* oder alte und also hässliche Weiber den Körper einschmieren. Es ist allerdings sicher, dass viele Frauen und mancher Mann sich diesen Moralismus oder Puritanismus nicht allzusehr zu Herzen genommen haben. Zu denjenigen gehört Ovid jedenfalls von der Gesinnung her, und diese Gesinnung wurde ihm bekanntlich zum Verhängnis.

Im ironischen Lehrgedicht *Ars Amatoria* 3.199-200 redet er seiner Leserinnenschaft neckisch zu.

Scitis et inducta candorem quaerere creta.
Sanguine quae vero non rubet, arte rubet.

'Ihr wisst, wie man durch das Auftragen von Puder eine helle Haut bekommt. Wo das Blut keine Farbe erzeugt, da wird sie künstlich beschafft.'

Für 'Puder' verwendet Ovid das Wort *creta*, das auch 'Kreide' bedeutet, d.h. Kalziumkarbonat ($CaCO_3$). Das semantische Feld des Substantivs *creta* ist ein sehr weites. Außer 'Kreide' und 'Puder', bzw. 'Pulver', kann es z.B. auch 'Tonerde' und sogar 'Kies' bedeuten, d.h. *creta* verweist auf eine große Anzahl mehr oder weniger pulverförmiger Substanzen, die mehr oder weniger Karbonate und Silikate beinhalten und für sehr unterschiedliche Zwecke verwendet werden können. Kreide, *creta*, wurde viermal als Hauptkomponente in unseren Proben nachgewiesen, und zwar dreimal in Kugeln. Die Anwendung von *creta* als *Terminus technicus* für kosmetischen Puder ist übrigens gut belegt.[23]

Gypsum bedeutet dagegen generell nur 'Gips' oder 'Putz'. Wir haben lediglich eine (spätgriechische) Stelle gesichtet, an der *gypsum* mit Sicherheit 'Schminke' oder '(Gesichts-) Puder' bedeutet: in der *Griechischen Anthologie* beim schwierig datierbaren Epigrammatiker Rufinus, der allerdings bestimmt in römischer Zeit schrieb. In einem 'Abschied von der Knabenliebe' meldet der Dichter, dass ihm jetzt 'statt der Knaben natürlicher Haut die Farbe von Gips und die dazukommende Blüte von Schminke gefallen'.

Ἀντὶ δέ μοι παίδων ἀδόλου χροὸς ἥρεσε γύψου
χρώματα καὶ φύκους ἄνθος ἐπεισόδιον.[24]

Obwohl es in den antiken Quellen als Schönheitsmittel kaum erwähnt wird, wurde Gips ebenfalls in vier unserer Proben als Hauptkomponente festgestellt, zweimal in Vögeln, zweimal in Kugeln (Nr. 1, 7; 5, 11). In zwei weiteren Fällen betrifft es eine Mischung von 85% Gips und 15% Kreide (Nr. 3, 4). Auch in Ägypten und Spanien wurde Gips als Bestandteil eines Pigments nachgewiesen (vgl. oben 2.1 und 2.2).

Juvenal bezeichnet (*Sat*. 6.467) Schönheitsmittel, die abgeschminkt werden, spöttisch als *tectoria* [*opera*] (Stuckwerk, Putz), und das sollte man natürlich mit einer (bemalten) Wand verbinden. In der bereits angeführten Petronpassage 23.5 wird die verlaufende Schminke des *cinaedus* mit einer verputzten Wand, die im Regen steht, gleichgesetzt. Stuckwände sehen alle ähnlich aus, unabhängig davon, welcher Grundstoff der Hauptbestandteil des Putzes ist. Wir vermuten daher, dass auch die Schönheitsmittel, die statt Kreide Gips (Kalziumsulfat) als pulverige Substanz enthielten, auf Lateinisch *creta* genannt werden konnten.

In den geschriebenen Quellen werden, außer der unspezifischen *creta*, mehrere Arten weißer

und roter, bzw. rosafarbener, Farb- und Schminkstoffe erwähnt, z.B. *cerussa* (Bleiweiß), *melinum* (Melische Erde, weiß), *purpurissum* (Purpurrot), *rubrica* (Rötel) und *fucus* (orseille oder Lackmus). Wir bemerken, dass kein expliziter Unterschied zwischen Farb- und Schminkstoffen gemacht wird. *Cerussa* und *purpurissum* werden vor allem als Farbe in der Malerei oder Farblack in der Färberei behandelt (auch das hat mit der Eigenart der Quellen zu tun),[25] aber, wie aus der angeführten Passage bei Plautus hervorgeht, hatten die Wörter schon früh auch ihre kosmetische Bedeutung.[26]

Die von uns veranlassten chemischen Analysen schließen diese Schönheitsmittel im Falle unserer Proben teilweise aus. Bleiweiß enthält z.B. vor allem $PbCO_3$ (Bleikarbonat). Blei wurde in den Proben nur als Spur nachgewiesen. 'Melische Erde' ist bestimmt eine weiße Schminke. Sie besteht größtenteils aus Aluminiumsilikat (Tonerde), einer Substanz, die in unserer Glaskugel Nr. 12 aus Xanten zwar vorgefunden wurde, allerdings mit den Farbmitteln Henna und Purpurine vermischt.

Bei den drei rötlichen Schminkstoffen war die Lage vergleichbar. *Rubrica* ist eine Tonerde, deren anorganische Hauptkomponente Eisenoxid (Fe_2O_3) in unserem Material nicht enthalten war.[27] *Fucus* ist (leider) etwas weniger greifbar. Man sollte von 'Seetang', 'Seegras' (*fucus marinus*) ausgehen. Weiterhin bezeichnet das Wort *fucus* dann jede Lagerpflanze (Thallophyt). Daher 'zum Rotfarben von Kleidern und als Schminke verwendete Rotalgen' und mehr eingeschränkt den Flechtenfarbstoff orseille. Daraus entsteht die Bedeutung 'Farbstoff (insbesondere für Haut oder Haare)', und schließlich sogar 'Vermummung, Betrug'. In der Kosmetik ist *fucus* also eine rote oder rosa Schminke, deren Farbe organischen Ursprungs ist. Die in den von uns veranlassten Analysen gefundenen farbigen Substanzen konnten in übertragener Sinne *fucus* genannt werden.

Dasselbe trifft für *purpurissum* zu, dessen semantisches Feld ebenfalls nicht sehr eng abgegrenzt zu sein scheint. Selbstverständlich ist das Wort mit *purpura* (πορφύρα) verwandt, das 'Purpurschnecke' bedeutet, und daher auch der kostbare Farbstoff Purpur und (metonymisch) Purpurmantel oder Purpurgewand. Das Pigment ist so teuer, dass es von den Auftraggebern geliefert werden muss,[28] wahrscheinlich auch um Streit über die Echtheit des Farbmittels möglichst vorzubeugen. Von vielen teuren Farbmitteln waren Nachahmungen oder Fälschungen auf dem Markt, deren Qualität übrigens nicht immer schlechter als die des Originals war, wie wir gleich sehen werden.

Purpurissum war eine Farbe und Schminke, die Plinius zufolge aus *creta argentaria*, Silberkreide, und einer siedend heißen (organischen) Farbstofflösung hergestellt wurde. Die *creta argentaria* ist das Substrat (Medium), das durch den Vorgang einer Fällung die Bildung des Pigments *purpurissum* bewirkt. Der Farbstoff haftet unauflöslich an der Oberfläche der Teilchen des Substrats. Dadurch entsteht ein sogenannter Farblack, der licht- und waschecht ist.[29] Plinius beschreibt *NH* 35.44, wie das Farbmittel angefertigt wurde:
creta argentaria cum purpuris pariter tinguitur bibitque eum colorem celerius lanis
'Silberkreide wird gleich mit den zu färbenden Stoffen [in eine Purpurlösung] eingetaucht und nimmt die Farbe schneller auf als die Wolle [die Farbe aufnimmt].'

Man würde vermuten, dass die Farbstofflösung vor allem Schneckenpurpur enthielt, aber das scheint nicht immer der Fall zu sein. Plinius berichtet *NH* 35.45 weiterhin, dass das *purpurissum* aus Puteoli (Pozzuoli), am Golf von Neapel, besser ist als das aus Tyros, Gaetulien oder Lakonien, *unde pretiossissimae purpurae*, 'woher die teuersten purpurnen Farbmittel kommen': *causa est, quod hysgino maxime inficitur rubiamque cogitur sorbere* 'weil es meistens mit hysginum gefärbt wird und gezwungen wird Krapp aufzunehmen'.

Hier haben wir ein *purpurissum* genanntes Farbmittel von guter Qualität, das - wie im Falle unserer farbigen Proben - ein Gemisch aus *creta* (d.h. Kreide, Gips oder Tonerde) mit Krapp und einem zweiten Farbstoff ist.

Leider steht nicht fest, was denn *hysginum* ist. Henna ist es nicht, denn das heißt *cyprus*. Die meisten Kommentatoren und Übersetzer verbinden das Wort *hysginum* verständlicherweise mit dem griechischen ὕσγη. Diese Bezeichnung bezieht sich wahrscheinlich auf die Kermes- oder Scharlacheiche (*Quercus coccifera* L.), auf der als Parasit die Kermesschildlaus lebt (auch Eichenschildlaus, *Coccus ilicis* L.), die den roten Farbstoff Karmesin liefert.[30] Vitruvius *De Arch*. 7.14.1 erzählt etwa einhundert Jahre vor Plinius: *fiunt etiam purpurei colores infecta creta rubiae radice et hysgino* 'Purpurfarben werden auch dadurch hergestellt, dass man Kreide mit Krappwurzel und Hysginum färbt.'[31] Vitruvius spricht von *purpurei colores*, nicht von *purpurissum*, einem Wort, das in seinem Werk nicht vorkommt.

Auch die Zusammensetzung von *hysginum* scheint allerdings nicht überall identisch gewesen zu sein. Plinius teilt *NH* 21.170 mit, dass in Gallien *hyacinthus* benutzt wird um *hysginum* anzufertigen: *Hyacinthus in Gallia maxime provenit. Hoc ibi fuco*

hysginum tingunt. Vitruvius hatte 7.14.1-2 beschrieben, wie man *purpuram elegantem* aus einer eingekochten Mischung aus *vaccinium*, Milch und *creta* anfertigen konnte. *Vaccinium* ist etymologisch mit ὑάκινθος verwandt und Plinius weiß *NH* 16.77 zu berichten, dass *vaccinia* in Gallien auch *purpurae tinguendae causa* gezüchtet wurden, 'zur Herstellung eines purpurroten Pigments', jedoch nur *ad servitiorum vestes*, 'um die Kleider von Sklaven zu färben'. Dieses gallische *hysginum* scheint also nicht von bester Qualität gewesen zu sein. Es gibt mehr Hinweise für die Gleichsetzung von *vaccinium* und ὑάκινθος, was hier aber zu weit führen würde.[32]

Wir können also die Tatsache festhalten, dass an mehreren Stellen, die von Farbe handeln, Verbindungen von *creta* und einem oder zwei organischen, roten oder rosa Farbstoffen angeführt werden. Dabei handelt es sich allerdings nicht exklusiv um Schönheitsmittel, sondern um ein breites Spektrum an Farbmitteln, die für sehr unterschiedliche Zwecke verwendet wurden. Das Pulver ist entweder das Medium, das durch das Verfahren einer Beizung auf Substrat den Farbstoff wasch- und lichtecht machen muss (was bei Kosmetikartikeln bedeuten würde, dass sie nicht flecken und nicht zerlaufen), oder es wurde als Verdünnung oder Füllmasse verwendet, um exakt den gewünschten Farbton zu gewinnen. Diese Gemische können *fucus* und *purpurissum* oder *purpura* genannt werden, obwohl sie offenbar kein oder nicht nur orseille, bzw. Schneckenpurpur enthalten.

In unseren rötlichen und rosa Proben wurden Purpurine und Henna gefunden. Welche Informationen liefern uns die antiken Quellen über diese Pigmente?

Henna

Der Hennastrauch (*Lawsonia inermis* L.) heißt κύπρος oder *cyprus*. Die Hennablätter, die das Pigment Lawson (Henna) enthalten, werden getrocknet und zu Hennapulver zerstoßen. In den antiken Quellen wird vor allem über Henna-Öl gesprochen, das bei bestimmten Krankheiten oder Schmerzen als Medizin empfohlen wird. Auch mit anderen Flüssigkeiten vermischt wird den Hennablättern eine medizinische Wirkung zugeschrieben.[33]

Nur einige Male wird *cyprus* als Farbmittel erwähnt: *Ipsa* (sc. *cypri folia*) *rufant capillum tusa adiecto struthei mali suco* (Plin. *NH* 23.90-1) 'Die Henna-Blätter werden zerstampft und, unter Zugabe von Quittensaft, angewendet, um die Haare rot zu färben.' Eine vergleichbare Mitteilung findet sich bei Plinius' Zeitgenossem Pedanius Dioscurides, dessen *De Materia Medica* (Περὶ ὕλης ἰατρικής) Plinius höchstwahrscheinlich unbekannt war: 'wenn man die pulverisierten Blätter mit Quittensaft befeuchtet und zu einer Creme mischt, färben sie die Haare rot' (*De Mat. Med*. 1.95 Wellmann).[34] Über Henna als kosmetisches Mittel für die Haut haben wir nichts Relevantes sichten können.[35]

In der Malerei oder Färberei wurde *cyprus* offensichtlich nicht verwendet.

Früher war für die Hennapflanze auch die Bezeichnung 'Echte Alkanna' üblich, um sie von der 'Falschen Alkanna' (*Alkanna tinctoria* L., Ochsenzunge) zu unterscheiden. Aus den Wurzeln der Ochsenzunge, die das Pigment Alkanin enthälten, wurde in Griechenland ein Rouge (ἔγχουσα oder ἄγχουσα) hergestellt, das in den literarischen Quellen gut belegt ist.[36] Theophrastus (*Hist. Plant*. 7.9.3) erwähnt ἄγχουσα und ἐρευθέδανον (Krapp) zusammen, wenn er über Pflanzen, deren Wurzeln rot sind, berichtet.

Purpurine (Krapp)

Die Krapppflanze (*Rubia tinctorum* L.) heißt ἐρευθέδανον oder *rubia*. Die Wurzeln enthalten einen roten Farbstoff, der sich besonders zum Färben von Textilien und Leder eignet. Bereits Herodot berichtet (4.189), dass die Frauen in Libyen über ihren Kleidern glatt rasierte, mit Krapp rot gefärbte Ziegenfelle tragen. Plinius der Ältere erzählt in der *Naturalis Historia* eine ganze Menge über *rubia*: Der Anbau von Krapp bringt viel Gewinn. Die Pflanze ist unentbehrlich zum Färben von Wolle und Häuten, der Krapp aus Italien ist der beste, aber *omnes paene provinciae scatent ea*, 'in beinahe allen Provinzen wimmelt es von Krapp'. *Rubia* kommt wild vor, wird aber auch als Kulturpflanze angebaut (*NH* 19.47). Auf Griechisch heißt die Pflanze *erythrodanum* oder *ereuthodanum* und man verwendet sie zum Färben von Wolle und beim Gerben von Leder (*NH* 24.94). Krapp hat auch verschiedene medizinische Eigenschaften. Es ist ein Diuretikum und, mit einem Honiggetränk vermischt, ein wirksames Heilmittel bei Gelbsucht. Mit Essig hilft es gegen Knötchenflechte. Schließlich kann man sich mit den Blättern die Haare tönen (*NH* 24.94).

Auch Pedanius Dioscurides, der Griechisch schreibt, erzählt manches über Krapp. Er nennt die Wurzel der Pflanze βαφική, zum Färben geeignet. Dioscurides stellt den Krapp, wie aus dem Titel seines Buches (Lat.: *De Materia Medica*) hervorgeht, vor allem als Heilmittel dar, aber er weiß

auch, dass es wilde und kultivierte Varianten gibt und dass Krapp 'z.B. in Ravenna als Gewächs zwischen Olivenbäumen gesät wird, mit viel Erfolg, weil der Anbau einen Riesenertrag einbringt' (Diosc. 3.143 Wellmann).

In griechischen Texten findet sich auch gelegentlich die Bezeichnung ῥίζα für Krapp (Wurzel).[37]

H. Schweppe vertritt in seinem grundlegenden *Handbuch der Naturfarbstoffe* die Meinung, Krapp sei 'der wichtigste Rotfarbstoff der Römer' gewesen. Nach S. Augusti war der römische Krapplack in der Wandmalerei der farbechteste.[38]

4. ARCHÄOLOGISCHE QUELLEN

Die gläsernen Vögel (Isings Form 11) und die Kugelflaschen oder Glaskugeln (Isings Form 10) entsprechen einander in vielerlei Hinsicht. Sie dienten als Behälter für Schönheitspflegemittel und waren mit einem weißen oder rosafarbenen kosmetischen Streupulver ähnlicher Zusammensetzung gefüllt. Das Abfüllen und das Zuschmelzen fand wahrscheinlich im Auftrag eines Kosmetikhändlers in den Glashütten statt. Durch das Zuschmelzen des Gefäßes wurde der Inhalt luftdicht versiegelt und somit vor Feuchtigkeit geschützt. Um den Inhalt benutzen zu können, musste von den Vögeln der Schwanz und von den Kugeln der Hals abgebrochen werden.

Vögel und Glaskugeln wurden in denselben Produktionsstätten hergestellt. Aufgrund der vielen Grabfunde im Nordwesten Italiens[39] hat man angenommen, dass die Kugeln und Vögel in dieser Region produziert wurden. Das ist möglich, obwohl römische Glasöfen für Oberitalien bisher nicht belegt worden sind. Die große Zahl der Kugeln und Vögel aus den Tessiner Gräberfeldern kann nach Biaggio Simona auf lokale Herstellung in Locarno hindeuten.[40] Glasproduktion während des 1. Jh. n.Chr. kann allerdings auch im Tessin bisher noch nicht nachgewiesen werden. Zwischen ca. 40 und 70 n.Chr. hat in den Glashütten von Avenches in bescheidenem Umfang eine Produktion von u.a. Glaskugeln und Vögeln stattgefunden.[41] Die Grabungen in Avenches haben damit die erste Glaswerkstatt im Römerreich zu Tage gebracht, in der die Produktion von Streupulverbehältern tatsächlich festgestellt werden konnte. Kürzlich wurde auch in Lyon eine Glaswerkstatt ausgegraben (aus der zweiten Hälfte des 1. Jh. n.Chr.), wo u.a. Vögel (Isings 11) und Kugeln (Isings 10) hergestellt worden sind.[42] Die Glashütten von Avenches und Lyon liefern also den Beweis dafür, dass diese Behälter für Schönheitspflegemittel schon relativ früh nördlich der Alpen produziert wurden. Sie sind weit verbreitet: Von Spanien und Kreta im südlichen Mittelmeergebiet bis Xanten, Nijmegen und Vechten im Nordwesten des römischen Reiches. Aus englischen Ausgrabungen sind die Vögel und Kugeln uns bisher nicht bekannt.

Beide Glasformen können von erfahrenen Glasmachern einfach frei aus der Hand geblasen werden. Der Herstellungsprozess ist so unkompliziert, dass ein Glasbläser an einem Tag leicht hundert Vögel machen konnte. Da sie nach eigener Auffassung und Phantasie der Glasmacher gestaltet wurden, sind die Details der Vögel sehr verschieden.[43] Nur für die Gestaltung der Schwänze und Schnäbel wird der Handwerker gelegentlich ein Holzgerät benutzt haben. Die Kugel ist ebenfalls eine elementare Glasform, die einfach zu blasen ist. Nicht nur die Form, sondern auch die Farbe der Behälter war reizvoll. Neben farblosem oder hellblaugrünem Glas waren besonders die Farben Blau, Grün, Bernsteingelb und Violett beliebt. Die Glaskugeln waren außerdem bisweilen mit einem aufgelegten opakweißen Spiraldraht verziert, oder, wie zum Beispiel in Avenches, mit einer dünnen Schicht Blei auf der Innenseite.[44] Die zarten Vögelchen müssen, ebenso wie die Glaskugeln, als Massenartikel betrachtet werden. Aus der Tatsache, dass die Schwänze bzw. die Hälse von den Verbrauchern abgebrochen werden mussten, um den Inhalt ausstreuen zu können, ergibt sich, dass die Behälter als Einwegverpackung dienten.

Die übergroße Mehrzahl der Vögel und Kugeln stammt aus Gräbern, in denen sie bis auf den abgebrochenen Teil weiter unversehrt blieben. In der Regel sind die Kugelflaschen dünnwandiger und deshalb zerbrechlicher als die Vögel. Mit Ausnahme des Vogels von Rovasenda[45] sind die Schwänze immer abgebrochen, ebenso wie die Hälse der Kugelflaschen. Dies bedeutet, dass der Inhalt schon vor der Bestattung angebrochen worden war, zur Gesichtspflege der Verstorbene. Dies steht mit der römischen Gewohnheit im Einklang, mehrere Glasbalsamarien, deren Inhalt für die Körperpflege der Toten gedient hatte, in die Gräber mitzugeben. Aus den lateinischen literarischen Quellen ergibt sich, dass Gesichtspflege in römischer Zeit vor allem eine Frauenangelegenheit war.

Die Glaskugeln haben im Allgemeinen eine größere Verbreitung und Funddichte als die Glasvögel. Die meisten Vogel- und Kugelgräber mit bekanntem Kontext sind mit weiteren Beigaben ausgestattet. An erster Stelle kommen die Glasbalsamarien, gefolgt von Tischgeschirr, bei dem es sich meistens um Keramikgefäße handelt. Manch-

mal hat man neben oder statt Keramik Glasgefäße mitgegeben. Zudem finden sich Fibeln, Münzen, Schmuck und häufig auch ein einfacher Spiegel in den Gräbern. Diese Gräber dürfen allerdings nicht als 'reich' betrachtet werden. Sie enthalten zwar eine Menge Beigaben, die jedoch im Altertum keineswegs besonders kostspielig waren. Glas war ein billiger Rohstoff, der einfach und schnell verarbeitet werden konnte. Die Glasqualität der serienmäßig hergestellten Vögel und Kugeln ist mitunter durchaus schlecht und niemals mehr als passabel. Von dem Inhalt läßt sich auch kaum sagen, dass er kostbar gewesen sei. Viele der übrigen Beigaben, die zusammen mit den Glaskugeln und Vögeln aufgefunden wurden, wie z.B. Weinkrüge, waren auch nicht teuer, sondern sind ebenso als leicht produzierbares Verpackungsmaterial aufzufassen.

Physisch-anthropologische Untersuchungen nach irdischen Überresten in Vogel- und Kugelgräbern haben nur ausnahmsweise stattgefunden. In einem Kammergrab in Knossos[46] konnte aufgrund des Knochenbaues von drei der insgesamt acht Skelette das Geschlecht festgestellt werden: Es ergibt sich, dass einer Frauenbestattung zwei Vögel und drei Schminkkugeln mitgegeben wurden. Sieben weitere Schminkkugeln und drei Vögel lagen bei unbestimmbaren Skelettresten, oder fanden sich zerstreut beim Eingang des Kammergrabes. Außerdem wurden aus diesem gemeinsamen Grab viele weiteren Beigaben zutage gefördert, insbesondere solche aus Glas. Dies sind u. a. Salbflaschen, Dattelflaschen, Traubenflaschen und verschiedenartige Krüge. Der Ausgräber ist der Meinung, es handele sich um einen Bestattungsplatz der Mittelklasse. Ebenfalls auf der Insel Kreta, diesmal in Herakleion, wurde bei Bauarbeiten ein Kindergrab aufgedeckt.[47] Unter den Beigaben war ein Vogel aus violettem Glas.

Verhältnismäßig viele Vögel wurden in Deutschland gefunden. Grab 55 (ca. 40-55 n.Chr.) vom Nordfriedhof in Worms[48] enthielt viele Beigaben, darunter eine Holzkiste mit u.a. einem Vogel aus bernsteingelbem Glas, einer Glaskugel der gleichen Farbe, und einem flachen Schüsselchen aus Streifenmosaikglas, das vielleicht zum Anrühren von Schminkpulver gedient hat. Aus physisch-anthropologischen Untersuchungen hat sich erwiesen, dass in diesem Grab ein 30 bis 39 Jahre alter Spätadult, aufgrund von Merkmalen am Becken wahrscheinlich eine Frau, bestattet worden war. Nicht nur die Schminkgeräte, sondern auch zwei Haarnadeln und ein Spiegel unterstützen diese These. Die Mehrzahl der Funde aus Köln, Mainz und Trier sind Einzelstücke.[49] Manche rühren aus Gräbern her, die am Ende des 19. oder am Anfang des 20. Jahrhunderts nicht immer unter Berücksichtigung der Grabzusammenhänge freigelegt wurden.

Wenn es sich um Siedlungsfunde handelt, sind gewöhnlich nur charakteristische Teile, wie die Hälse der Kugeln und die Köpfe und Schwänze der Vögel, erkennbar. Die Gefäße sind eben sehr zerbrechlich. Deshalb sind sie bei Grabungen in Zivilsiedlungen und Militäranlagen wohl oft übersehen worden. Zudem liegt es nahe, dass die Glasvögel und Kugel als Einwegverpackung in breitem Umfange für das Recycling eingesammelt wurden.

ANMERKUNGEN

1 Haalebos 1998, 24.
Diese Untersuchung sowie alle weiteren Analysen sind vom Netherlands Institute for Cultural Heritage (Instituut Collectie Nederland, Amsterdam) durchgeführt worden (P. Hallebeek, M. van Bommel, S. de Groot, H. van Keulen). Insbesondere Herrn P. Hallebeek sind wir für seine vielfältige Unterstützung sehr zu Dank verpflichtet. Für die Bereitstellung von Proben und weitere Hilfe danken wir Clasina Isings, Utrecht, Annelies Koster (Museum Het Valkhof, Nijmegen), M. Polak (Radboud Universiteit, Nijmegen), H.J. Schalles (Regionalmuseum Xanten) und A.B. Schut, Maastricht.
Dick Hottentot (Leiden) hat unsere Fragen auf dem Gebiet der Chemie geduldig beantwortet. Andreas Mühlmann (Berlin) korrigierte gewissenhaft den deutschen Text. Ihnen beiden sei dafür herzlicher Dank bezeugt.
2 Isings 1957, 25-27.
3 Newby/Schut 1999, 44, Nr. 37.
4 Von den insgesamt zwölf untersuchten Objekten haben drei Proben geliefert, die für Untersuchungen nach organischen Bindemitteln nicht ausreichend waren: der Vogel vom Hunerberg, Nijmegen (hier Nr. 2) und die Kugeln aus Moyland und Vechten (Nr. 8 und Nr. 9). Der Inhalt einiger untersuchter Objekte besteht anscheinend aus kleinen Klümpchen. Dies ist nicht auf ein Bindemittel zurückzuführen, sondern auf die Tatsache, dass Gips zum Teil wasserlöslich ist. Bei einer relativ hohen Luftfeuchtigkeit lösen sich die Gipsteilchen an der Oberfläche auf, um bei einer geringeren Feuchtigkeit wieder auszukristallisieren.
5 Russell 1892, 44-48, insbes. 47-48. Vgl. auch Schweppe 1993, 243.
6 Farnsworth 1951, 236-239. Vgl. auch Schweppe 1993, 243-244.
7 Kam 1905, 52, erwähnt neben der von Visser analysierten fragmentarischen Kugel 'einige' völlig unversehrte Kugeln in seiner Privatsammlung. Wahrscheinlich waren nur die Körper unverletzt und die Hälse abgebrochen. Nach Kam enthielten sie einen roten Farbstoff.
8 Bei Kam 1905, 53-54.
9 Hettner 1903, 107.
10 Bei Jongkees 1959, 19-20.
11 Biaggio Simona 1991, 126 und Anm. 19.
12 Biaggio Simona 1991, 126, Anm. 21; Fortunati Zuccala 1979, 18.

13 R.E. Jones, Analysis of the Pink Powder in the Globular Unguentarium 2, in: Carington Smith 1982, 293.
14 Janistyn 1950, 74-5.
15 Dietrich/Forg 1984, 359.
16 Pérez-Arantegui u.a. 1996.
17 Vgl. Anm. 27.
18 Carducci 1968, Taf. 20; Maccabruni 1983, 107-109; Motte/Martin 2003, 313.
19 Namur 1853, 166-169.
20 Friedländer 1922, 280.
21 Allgemeines über Kosmetik bei Dayagi-Mendels 1989; Paszthory 1990 (mit Literaturangaben zur früheren Forschung).
22 Vgl. A. Otto, *Die Sprichwörter der Römer* (Leipzig 1890) s.v. *mulier* 5 (Nr. 1156) und *olere* (Nr. 1281), z.B. Cic. *Ad Att*. 2.1.1 *ut mulieres ideo bene olere, quia nihil olebant, videbantur* 'meiner Meinung nach riecht es, wie eine Frau, darum gut, weil es nach gar nichts riecht.' Es gilt natürlich auch für Männer: Mart. 6.55.5 *Malo quam bene olere, nihil olere* 'statt gut zu riechen bevorzüge ich es gar nicht zu riechen'; Sen. *Epist. ad Luc*. 108.16 *inde in omnem vitam unguento abstinemus, quoniam optimus odor in corpore est nullus* 'von da an enthalten wir uns für das ganze Leben des parfümierten Salböls, denn der beste Körpergeruch ist gar keiner.'
23 Augusti 1962, 129-132. Komprimiert in Augusti 1967, 53-55. Creta als Make-up: Plaut. *Truc*. 294; Novius *Com*. 83; Hor. *Epod*. 8.12.10; Ov. *AA* 3.199; Mart. 2.41.11 (*cretata Fabulla*); 6.93.9; 8.33.17; Petr. 23.5; *Ant. Lat*. 434.1 SB (436.1 Riese).
Auch *medicamen/medicamentum* wird für 'Schönheitsmittel' verwendet: Ov. *Med. Fac*. 67; 90; *AA* 3.205; Petr. 126.2; Iuv. 6.472; Fronto 58.27 van den Hout; Sen. *de Vita Beata* 7.3.
24 Denys Page ad Rufinus VI (=*Anthologia Palatina* 5.19.3): 'I have not noticed the cosmetic use of γύψος in a strictly Greek context.' (*The Epigrams of Rufinus*, Cambridge 1978, 77). Cicero erwähnt *Ad Fam*. 7.6 Ennius' Tragödie *Medea*, wo der Akteur, der die Titelrolle spielt, *manibus gypsatissimis* auftritt, 'mit sehr weiß geschminkten Händen'. Es ist nicht sicher, ob es Ciceros oder Ennius´ Worte sind. An zwei Stellen bei Herodot (7.69; 8.27) malen Soldaten sich den ganzen Körper als Kriegslist mit Gips an.
25 Vitruv und Plinius Maior behandeln in *De Arch*. 7, bzw. *NH* 35, die Farbstoffe, die in der Malerei und zum Teil auch beim Färben von Geweben und Leder verwendet werden.
26 Augusti 1967 betrachtet z.B. auf S. 57-58 (*creta anularia*) und S. 76 (*purpurissum*) einige seiner *Colori Pompeiani* als Schönheitsmittel.
27 Siehe Augusti 1967, 56 für *melinum*, S. 60-61 für *cerussa*, S. 82-85 für *rubrica*. Croisille 1985, 152-155 (*rubrica*), S. 156 (*melinum*), S. 156-157 (*cerussa*).
28 Vitr. 7.5.8; Plin. *NH* 35.30 und 44.
29 Vgl. Schweppe 1993, 55; Augusti 1967, 39-41. Nach Augusti 1967, 58-59 ist *creta argentaria* 'farina fossile', eine Mischung aus Silikaten, Kalziumkarbonat, Eisenoxid, organischen Resten und anderen Bestandteilen. Er kommt zu dieser Schlussfolgerung durch die Analyse von einer einzigen seiner Proben. Andere meinen, es sei Kreide (Kalziumkarbonat), s. Croisille 1985, 290-291.
30 Cam u.a. 1995, 180 fassen die Probleme übersichtlich zusammen.
31 *Rubiae* und *hysgino* stehen nicht in den Handschriften, werden aber in allen üblichen Editionen gelesen. Man vergleiche z.B. den *apparatus criticus* der Budé-Edition von Cam u.a.1995, 37 ad 7.14.1.
32 Z.B. die Tatsache, dass bei Vergil *Ecl*. 2.18 die *vaccinia nigra* offensichtlich durch Theocr. *Id*. 10.28 beeinflußt sind: καὶ τὸ ἴον μέλαν ἐστί, καὶ ἁ γραπτὰ ὑάκινθος 'Veilchen auch und Hyazinth mit gezeichneten Blättern sind dunkel'. Vgl. Gow ad Theocr.10.28 für die fragliche Identifikation des *hyacinthus*.
33 Celsus *De Medic*. 3.19.2; 4.6.5; 8.11.8; Scrib. Larg. *Comp*. 206; 210; 255; Diosc. *De Mat.Med*. 1.55 W; 1.95 W; Plin. *NH* 23.157; 28.109; 28.241; 31.121; 35.195.
34 Dieser 'Saft der Birnenquitte' heißt *struthei mali sucus*, bzw. στρουθίου χύλος. Es handelt sich also um dieselbe Flüssigkeit. Über die Bedeutung von *strutheum*/στρούθιον herrscht keine Übereinstimmung. Die alternative Übersetzung lautet 'Seifenkrautsaft'. Außer *strutheum* wird die Pflanze auch *radicula* genannt (Plin. *NH* 19.48) und darüber erzählt Plinius, dass *tinguentibus radicula lanas praeparat* 'die *radicula* für die Färber die Wolle auf das Färben vorbereitet' (*NH* 24.96). Er verdeutlicht 'vorbereiten' dadurch, dass er *NH* 25.52 [*radicula*] *qua lanas diximus lavari* 'gewaschen werden' schreibt. Plinius meint offensichtlich 'entfettet werden'. Deswegen denken vor allem die deutschen Übersetzer und Kommentatoren, dass es sich bei *radicula*/*strutheum* um *saponaria officinalis* L. handelt, Seifenkraut, das Columella 11.2.35 *radix lanaria* nennt.
35 Plinius schreibt, dass *cyprinum oleum* gut riecht (*NH* 12.109) und dass die Augensalbe *crocodilea*, vermischt mit Henna-Öl, Pickel auf dem Antlitz beseitigt (*NH* 28.109). Biaggio Simona 1991 nennt [210, Anm. 140] eine Untersuchung von 1913, die offensichtlich erst 1940 von D. Silvestrini veröffentlicht wurde. Der Schweizer Chemiker Luigi Reutter analysierte eine Creme, die in einer verschlossenen, nicht mehr auffindbaren Amphore aus Glas gefunden wurde. Die Creme war ein Schönheitsmittel, das sich aus Bienenwachs, einem Bindemittel (*Resina colophonia*) und *storax* als Duftstoff zusammengesetzt haben soll. *Storax* ist ein wohlriechendes Harz. Leider haben wir die Erstpublikation (D. Silvestrini, Come s'imbellettavano le belle locarnesi, *Rivista Storica Ticinese* 15, 1940, 532-534) nicht ermitteln können, denn auch Henna scheint im Gemisch nachgewiesen worden zu sein.
36 Aristoph. *Lys*. 48; Aristoph. *Eccles*. 929; Xen. *Oec*. 10.2; Nic. *Ther*. 838; Dio Cass. 79.14; Etym. Magn. 313.37. Vor allem im Papyrus Leidensis und im Papyrus Holmiensis, die § 89-99, bzw. § 89-159, von Ersatzmitteln für den teuren Purpur handeln (Halleux 1981), wird ἄγχουσα als Mittel in der Färberei beschrieben. Die Papyri werden in die Zeit des Kaisers Konstantins datiert (306-337 n.Chr.).
37 Strabo 13.4.14 und im Papyrus Holmiensis: Z. 821; 1107; 1114; 1118 (vgl. Halleux 1981).
38 Schweppe 1993, 55; Augusti 1967, 120, Anm. 5.
39 Carducci 1950, 23-39; Facchini 1998, 130-136.
40 Biaggio Simona 1991, 122. Im Tessin sind insgesamt ca. 85 Schminkkugeln und ca. 60 Vögel gezählt worden, a.a.O. 120-129, Taf. 13-15, Abb. 51-55. Für die Grabinventare Muralto-Liverpool, Muralto Branca und Minusio Cadra (Grabungen 1936-1937) s. Simonett 1941.
41 Amrein 2001, 61-65.
42 Motte/Martin 2003, 313.
43 Es betrifft hier ausschließlich Vögel der Form Isings 11. Sie sind nicht zu verwechseln mit freigeblasenen Salbgefäßen in Vogelform aus dem östlichen Mittelmeergebiet. Letztere haben einen gedrungenen Körper und einen Trichterhals (z.B. Von Saldern u.a 1974, 204-205, 1.-2. Jh. n.Chr.). Eine zweite abweichende Gruppe setzt sich aus den freigeblasenen Schwänen mit langem, gebogenem Hals und breit endendem Schnabel zusam-

men. Sie werden manchmal als Saugheber interpretiert und kommen vereinzelt in Gräbern des 3. und 4. Jh. vor, namentlich im Nordwesten des Reiches (z.B. Fremersdorf 1961, 38, Taf. 52). Wahrscheinlich wurden sie für Flüssigkeiten verwendet.

[44] Amrein 2001, 41-48.

[45] Siehe auch Par. 2.2 und Anm. 18.

[46] Par. 2.2 und Carington Smith 1982, 255-293.

[47] S. Alexiou 1966 (1968), Crete, *ADelt* 21, 408, Taf. 437.

[48] Grünewald 1990, 24-25; 203-206.

[49] Fremersdorf 1958, 31 f., Taf. 33 = Fremersdorf 1961, 19, Taf. 1-2 (Köln); Harter 1999, 86f., 219, Kat. Nr. 488, Taf. 65, Taf. 73 (Mainz); Goethert-Polaschek 1977, 257, Taf. 79-80 (Trier).

ABGEKÜRZTE LITERATUR

Amrein, H. 2001, *L'Atelier de verriers d'Avenches. L'artisanat du verre au milieu du 1er siècle après J.-C.* (Cahiers d'Archéologie Romande 87), Lausanne.

Augusti, S. 1962, Sulla 'creta' degli antichi, *RendNap*, Nuova Serie 37, 129-132.

Augusti, S. 1967, *I colori Pompeiani*, Rom.

Biaggio Simona, S. 1991, *I vetri romani provenienti dalle terre dell'attuale Cantone Ticino*, Locarno.

Cam, M.-T. u.a. 1995, Vitruve, *De l'Architecture Livre VII*, Paris (Edition Budé).

Carducci, C. 1950, La necropoli romana di Biella, *Bollettino della Società Piemontese di Archeologia e di Belle Arti* 4, 23-39.

Carducci, C. 1968, *Arte romana in Piemonte*, Torino.

Carington Smith, J. 1982, A Roman Chamber Tomb on the South-East Slopes of Monasteriaki Kephala, Knossos, *BSA* 77, 255-293.

Croisille, J.-M. 1985, *Pline l´Ancien, Histoire Naturelle Livre XXXV*, Paris (Edition Budé).

Dayagi-Mendels, M. 1989, *Perfumes and Cosmetics in the Ancient World*, Jerusalem.

Dietrich, A./M. Forg 1984, Untersuchung eines zerstörten Glasballons mit rosafarbenem Pulver aus Xanten Colonia. Fst. Herbrand Grab 11 Nr. 21, *Beiträge zur Archäologie des römischen Rheinlands* 4 = *Rheinische Ausgrabungen* 23, 359 (Exkurs bei Hinz 1984).

Facchini, G.M. 1998, Il balsamario a forma di colomba, in S. Masseroli (Hrsg.), *Vetro e vetri. Preziose iridescenze*, Milano, 130-136.

Farnsworth, M. 1951, Second century B.C. rose madder from Corinth and Athens, *AJA* 55, 236-239.

Fortunati Zuccala, M. 1979, Gropello Cairoli (Pavia). La necropoli romana. *NSc* 33, 5-88.

Fremersdorf, F. 1958, *Römisches Buntglas in Köln*, Köln.

Fremersdorf, F. 1961, *Römisches geformtes Glas in Köln*, Köln.

Friedländer, L. 1922, *Darstellungen aus der Sittengeschichte Roms*, 10. Aufl., besorgt von Georg Wissowa, Bd. 2, Leipzig.

Goethert-Polaschek, K. 1977, *Katalog der römischen Gläser des Rheinischen Landesmuseums Trier* (Trierer Grabungen und Forschungen IX), Trier.

Grünewald, M. 1990, *Der römische Nordfriedhof in Worms. Funde von der Mainzer Straße*, Worms.

Haalebos, J.K. 1998, *Centuriae onder Centuriae Hof. Opgravingen achter het hoofdgebouw van het voormalige Canisiuscollege te Nijmegen 1995-1997* (Libelli Noviomagenses 5), Nijmegen.

Halleux, R. 1981, *Alchimistes grecs. Papyrus de Leyde. Papyrus de Stockholm*, Paris (Edition Budé).

Harter, G. 1999, *Römische Gläser des Landesmuseums Mainz*, Wiesbaden.

Hettner, F. 1903, *Illustrierter Führer durch das Provinzialmuseum in Trier*, Trier.

Hinz, H. 1984, Römische Gräber in Xanten. Grabungen 1962-1965, *Beiträge zur Archäologie des römischen Rheinlands* 4 = *Rheinische Ausgrabungen* 23, 301-370.

Isings, C. 1957, *Roman Glass from Dated Finds* (Archaeologica Traiectina 2), Utrecht.

Janistyn, H 1950, *Riechstoffe Seifen Kosmetika*, Heidelberg.

Jongkees, J.H. 1959, *Ancient Cosmetics* (Archaeologica Traiectina 3), Utrecht, 19-20.

Kam, G.M. 1905, Kleine Mededeelingen, Romeinsche Toiletartikelen, *Bulletin Nederlandschen Oudheidkundigen Bond* 6, 52-54.

Maccabruni, C. 1983, *I vetri romani dei Musei Civici di Pavia*, Pavia.

Motte, S./S. Martin 2003, L'atelier de verrier antique de la Montée de la Butte à Lyon et ses productions, in D. Foy/M.-D. Nenna (Hrsg.), *Echanges et commerce du verre dans le monde antique* (Monographies Instrumentum 24), Montagnac, 303-319.

Namur, A. 1853, Notice sur un véritable lacrymatoire, découvert en 1852 dans le Grand-Duché de Luxembourg. *Publications de la Société pour la Recherche et la Conservation des Monuments Historiques dans le Grand-Duché de Luxembourg* 8, 166-169.

Newby, M.S./A.B. Schut 1999, *The Fascination of Ancient Glass. Dolf Schut Collection*, Lochem.

Paszthory, E. 1990, *Salben, Schminken und Parfüme im Altertum* (Sonderheft Antike Welt), Mainz am Rhein.

Pérez-Arantegui, J. u.a. 1996, Analysis of the Products Contained in Two Roman Glass Unguentaria from The Colony of Celsa (Spain), *Journal of Archaeological Science* 23, 649-655.

Russell, W.J. 1892, Egyptian Colours, in: W.M. Flinders Petrie, *Medum*, London, 44-48.

Saldern, A. von u.a. 1974, *Gläser der Antike. Sammlung Erwin Oppenländer*, Hamburg.

Schweppe, H. 1993, *Handbuch der Naturfarbstoffe. Vorkommen, Verwendung, Nachweis*, Landsberg/Lech.

Simonett, Chr. 1941, *Tessiner Gräberfelder* (Monogr. Ur- und Frühgesch. Schweiz III), Basel.

W. HOTTENTOT
APARTADO DE CORREOS 52
38350 TACORONTE
TENERIFA, ESPAÑA
hottentot@terra.es

S.M.E. VAN LITH
FIDELIOLAAN 51
NL-1183 PH AMSELVEEN
sophiavanlith@hetnet.nl

BABesch 81 (2006, 199-226. doi: 10.2143/BAB.81.0.2014429)

British Excavations at Bir Messaouda, Carthage 2000-2004: the Byzantine Basilica

Richard Miles

Abstract

New excavations at Bir Messaouda, a piece of open ground in the centre of modern Carthage, have uncovered a very substantial Christian transept basilica which dates to the 6th century AD. The structure bordered the Decumanus Maximus to the north and Cardines IX and X east to the west and east. The complex also comprised of a baptistery and crypt. The building appears to have been in use for much of the Byzantine period before falling into disuse in the later part of the 7th century AD.

INTRODUCTION

The excavated site occupies the northern sector of a piece of open ground in the centre of modern Carthage called Bir Messaouda (*fig. 1*). On its northern fringes are the old excavations of the University of Hamburg and to the south, the present excavations of the University of Ghent and the INP of Tunisia. To the west it borders the modern TGM line. The area under excavation measures roughly 170 m north to south by 80 m east to west. In the Roman and late antique period this site occupied an important position on the lower eastern slopes of the Byrsa Hill running down towards the harbours of Carthage. On the Roman street grid it lies between Cardines IX east and XI west, and the Decumanus Maximus and Decumanus I south. (*fig. 2*).

In recent years, a number of important archaeological projects have taken place across the area. These works have produced evidence of Punic, Roman and late antique structures within this general area indicating a continuous use of this site from the middle of the 8th century BC to the beginning of the 8th century AD and beyond up to the present day. In the northern area of the field H.G. Niemeyer of the University of Hamburg has excavated on the crossroads of the Decumanus Maximus and Cardo X.[1] To the north-east of the terrain, H. Dolenz and C. Flügel on behalf of the German Archaeological Institute in Rome have uncovered the remains of a large imperial Roman structure which appears to have been re-used in the Byzantine epoch as well as a Byzantine era crypt.[2] In the southern area of Bir Messaouda, a

Fig. 1. Map of the location of Bir Messaouda in relation to other sites in Carthage.

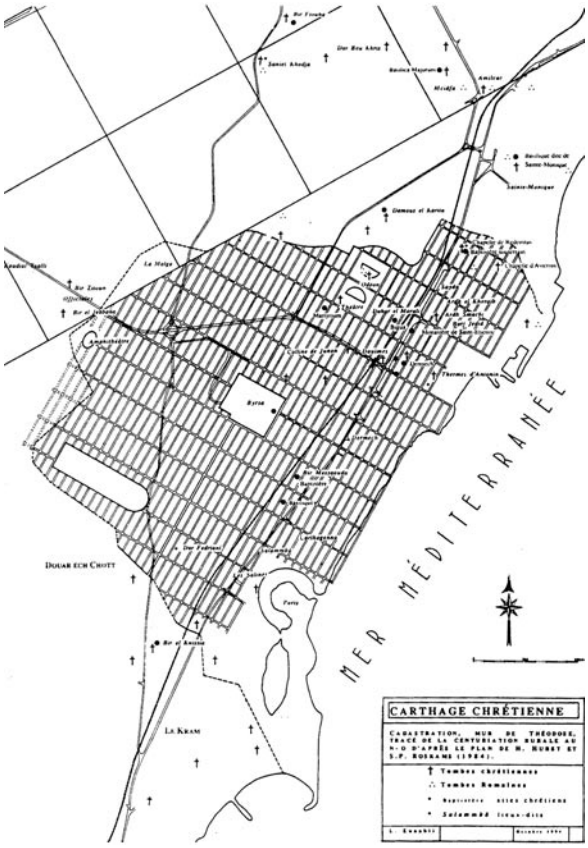


Fig. 2. Roman grid plan of Carthage.

Fig. 3. Aerial view of Bir Messaouda from the 1970s showing a number of unrecorded excavations across the site.

late Punic building has been unearthed by F. Chelbi of the Institut National du Patrimoine (INP).[3] In recent years an important collaboration between the INP and the University of Ghent under the co-directorship of Chelbi and R. Docter has excavated a whole series of structures ranging from the archaic to the Byzantine periods.[4] There is also clear evidence of a number of unrecorded excavations having been undertaken across the site too (*fig. 3*).

Originally the present project was undertaken in advance of imminent re-development of the site. However, these development plans have recently been shelved. Due to limitations of time, it was decided to concentrate solely on the late antique and Byzantine levels of the site although the excavation has since revealed information about this area in the late Punic and middle imperial epochs. Initially the work was centred on a Christian baptistery, indicated by the upstanding remains of a large font located within the field close to the line of the TGM. From previous excavations in and around this structure it had been dated to the Byzantine epoch.[5] The preliminary aim of the present excavation was to re-interpret this structure and to ascertain whether it was part of a larger ecclesiastical structure. For this purpose, the excavation has centred on the areas to the north and east of the baptistery. This decision was taken because to the west the baptistery borders the TGM line and 10 m to the south of the baptistery trenches from a previous excavation revealed no substantial Byzantine structures. Also a resistivity study indicated the presence of structures in the area to the north of the baptistery only. Since 2000 an area roughly 73.48 m north-south by 43.51 m east-west has been excavated.

During this period there has been close cooperation with the team from the University of Ghent under the direction of Docter who has been excavating an area between Cardines IX, X, XI bordering Decumanus I south. This collaboration has consisted in plotting our respective sites onto one master grid.

The subject of this present report is the important structures dating to the 6th and 7th centuries

Fig. 4. Line of the western terrace wall, robber cut [845].

AD that were excavated on the site. However the extensive amount of robbing activity that has occurred both ancient and modern has meant that earlier levels have been accessible. Thus it has been possible to accumulate important information upon the earlier Vandal and Roman periods as well some Punic material which will be fully published at a later date.

In respect of the Roman finds it should be noted that there was a marked difference in levels between the eastern and western areas of the insula during the Roman period. The western levels as typified by a series of cisterns found in the north-west area of the site varied between 15.80 to 17.20 m. To the east the highest Roman floor levels were found at ca 15.05 m above sea level. These marked changes in floor levels between the eastern and western areas of the insula were explained by the presence of a substantial robber trench running north to south across the whole of the site on the same alignment as the Cardines to the east and west of it (*fig. 4*). Although not fully traced, a wall on a similar alignment was found in the excavations of the University of Hamburg 26 m to the north and in the Tunisian/Belgian excavations to the south. Despite having been heavily robbed, at the northern end of the site part of the wall of the terrace had survived made up of a mix of sandstone and limestone blocks with an earth bond roughly 3 m of this wall was visible to a depth of ca 1 m.

This terrace wall played an integral part in the development and plan of the buildings within the insula.

* It demarcated the western and eastern areas of the insula into upper and lower zones thereby controlling the uses of these two spaces.
* It enabled development within definable limits.
* It also played a structural role in that a number of the buildings in the eastern half of the insula utilised the terrace wall.

To the east of the terrace wall a number of Roman houses have been excavated which front onto the street of Cardo X. From material recovered from makeup levels from the earliest floor layers found in these houses (11256) it would seem that these substantial structures were constructed in the mid-2nd century AD and were continuously inhabited thereafter with various alterations and floors added over time. From the finds and the layout of the buildings it would appear that these were private dwellings although there may have been a commercial side to them as shops possibly would have fronted onto Cardo X.

Of the buildings excavated there was a noticeable drop off in floor levels from the north western to the south-eastern areas of the site with the northern structures at a considerably higher level than the southern structures from the same period. The same drop in levels was found in the higher western half of the insula. This differentiation in levels across the site would have implications for the later development of the insula.

Evidence found from the northern and central Roman structures, which fronted onto Cardo X showed that the buildings fell into disuse in the late 4th/early 5th century AD. Some of the buildings appeared to have been burnt down. For example overlying a very fine mosaic with marble inlay (11406) was a thick layer of ash which sealed the floor (11258; *fig. 5*). To the south the buildings seemed to have remained in use until the 6th century AD.

These changes reflect a general transformation that occurred to the eastern section of the insula in the mid-5th century. The houses in the northern section of the Cardo X frontage were levelled and various dumped backfilled deposits including 11263, 11325 and 11282 were used to infill the rooms up to 1 m in thickness. A large north-south

aligned rectangular structure measuring ca 51 m north to south by 17 m east to west was constructed over the levelled houses. This structure incorporated the line of the Roman terrace wall to the west and the western wall of Cardo X to the east. Internally the interior space was divided into three by two parallel colonnades. An intricately designed mosaic covered the floor. The northern end of the building appeared to have been sub-divided into a number of rooms. Access was gained via a lower entrance vestibule at the southern end of the building (*fig. 6*). This structure was further modified in the early decades of the 6th century AD when an apse was added on its northern end and sockets for chancel screens were cut through the mosaic (*fig. 7*).

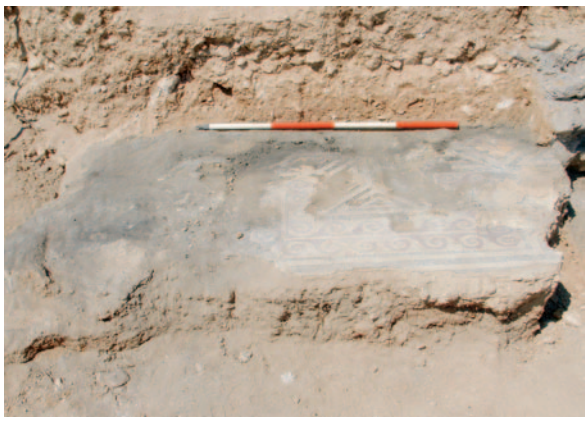


Fig. 5. Roman house. Burnt material (11258) overlying mosaic.

THE MID-6TH CENTURY AD BASILICA

During the Byzantine period the whole area was extensively remodelled. A substantial east-west orientated basilica was constructed incorporating the earlier north-south structure (*fig. 8*). The building materials, decoration and both stratified and un-stratified finds associated with the structure strongly suggest a mid 6th century AD construction date with a number of later renovations added after this period.

In order to create an east-west orientated basilica, considerable alterations had to be made to the physical terrain. The north-south Roman terracing wall had to be partially removed and the higher ground to the west taken down to the level of the earlier 5th century AD north-south orientated basilica whose western extent had been marked by the Roman terracing wall.

Structural alterations were also required so as to incorporate the north-south structure into the plan of the new east-west orientated basilica. A number of alterations were made to the floor plan of the older basilica including the removal of a number of columns, the enlargement of others, and the creation of new ones. Part of the roof was certainly removed for structural work to be able to take place. The building was also re-floored with new mosaics. Along with these changes the walls of the buildings were pushed back. The eastern extent of the north-south basilica was extended with the construction of an apse onto Cardo X. This extension onto the Cardo also seems to apply to the western extension where the western wall of the basilica along with the associated wall of the baptistery was extended onto the line of Cardo IX. At the northern end the side chambers were modified into apses with the southern walls of the chambers removed to open them up. To the south the lower entrance vestibule was levelled in and the structure extended to the south.

Excavation has now revealed the western, northern, eastern and southern limits of the Byzantine basilica as a whole, all of which have been extensively robbed.

The east-west 'central' aisles

The basic form of the east-west building conformed to a basilical plan with four colonnades and five aisles. The main east-west aisles of the structure covered an area 22.5 m in width and 34.5 m in length. The central nave was 7.88 m wide, with a colonnade on either side of it 1.35 m wide, an inner aisle 1.95 m wide, another, narrower colonnade 0.67m wide and an outer aisle 2 m wide. At the western end of the building was a separated area, 3.30 m in width, with mosaics aligned north-south, which seems to have been a narthex bordering Cardo IX. The north-south extent incorporated the earlier 5th Century building measuring 17 m wide and 51 m long with the an extension ca 20 m from the southern limit of the earlier building. It was divided into three aisles with a central nave of 8.9 m in width, a colonnade on either side ca 1.50 m wide and an outer aisle 2.50 m wide.

a The walls

Traces have been found of the western, southern and northern walls of this east-west orientated structure. Each has been extensively robbed although some large sandstone blocks (ca 0.60 m x 0.40 m) along with extensive traces of *opus cae-*

Fig. 6. Excavation and layout plan of the Phase I mid 5th century building.

Fig. 7. Excavation and layout plan of the Phase II early 6th century building.

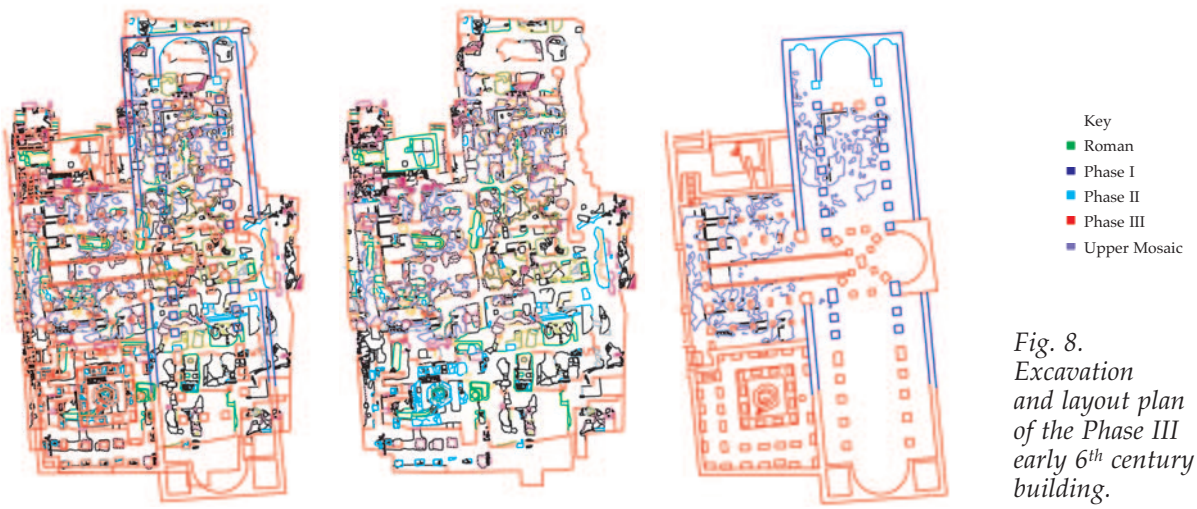


Fig. 8. Excavation and layout plan of the Phase III early 6th century building.

menticium, have been found adhering to the sides of the cuts. Although the southern and northern walls showed signs of having been constructed in typical *opus africanum*, slab indentations in the Roman stratigraphy indicated that the western wall was built of ashlar masonry. On the line of the western and northern walls' cuts a number of *in situ* limestone ashlar blocks were discovered. The blocks had traces of *opus caementicium* on the upper face. It was therefore thought likely that these walls were embellished with pilaster columns. Both the northern and southern walls of the east-west wing seem to have abutted the pre-existing north-south re-used terrace wall. The size of the robber trench suggests that the walls were approximately 1-1.25 m in width.

Each of these three walls marked a considerable difference in floor level between this new mid-6th century AD structure and the much earlier Roman stratigraphy that it was cut into. The presence of *opus caementicium* bonded onto the sides of the intact Roman stratigraphy ascertains the presence of a vertical structure which separated the higher level associated with Cardo IX and the lower floor levels associated with the east-west aisled structure thereby demarcating the western extent of the building.

b Entrances

Traces of several access points were also discovered. The existence of a very defined threshold along the line of the western wall of the building suggests that this was likely to have been the site of an entrance. The threshold, itself, is made up of two large limestone slabs each approx. 2.2 m long and 0.8 m wide (463). These two *in situ* blocks were virtually central to the main east-west nave. It seems likely that the slabs would have continued to the north, where the robbing has been deeper and would have enabled access into the centre of the structure directly opposite the main eastern apse. A stretch of mosaic on the east side of the northernmost slab showed that the mosaic (the pattern and the borders) initially respected the edge of these slabs. However, at some point a white mortar layer (468) was laid partially over the slabs. Imprints in the mortar seemed to indicate that a mosaic had been set into this deposit suggesting that the entrance had been re-floored at some juncture. It is unclear as to when this happened but it may have occurred at the same time as a number of other areas within the main structure of the basilica were refloored/repaired.

Any access point between Cardo IX and the basilica would have required a staircase. Between the western edge of the limestone slabs and the higher Roman stratigraphy a gap ca 0.50 m wide exists, with a deposit of *opus caementicium* on the western face of the robber cut. A similar deposit of *opus caementicium* was also found to the south adhering to the exposed western faces of the Roman layers as well as on their top surfaces. These deposits would seem to be associated and may indicate that directly behind the threshold a second set of blocks were located with another set above these on the higher level. Due to the closeness of the modern TGM railway line at this point it was difficult to extend this area to the west to see if there are any structural remains. However it would appear very likely that these were the remains of a staircase. In addition, the presence of discrete robber cuts and a considerable number of large column fragments suggest that this entranceway might have been flanked with columns, in line with the inner northern and southern colonnaded aisles of the main basilica.

A second entrance appears to have been located ca 10 m to the south of the threshold at the south-west corner of the structure. The remains of a rough sandstone wall aligned north-south measuring ca 2.20 m by ca 0.20 m with a larger sandstone block mortared on to its western edge, was located ca 1 m in from the proposed eastern edge of the western back wall of the basilica. The mortar imprints of two similar sized were found to the south of the *in situ* block. Despite the central area behind the blocks having been robbed, grey *opus caementicium* mortar was found adhering to the western face of the higher Roman stratigraphy. It was therefore judged likely that a smaller staircase had descended into the structure off Cardo IX. Although this entrance was much smaller than the main entrance to the north it is likely that columns had been placed either side of the stairway. The northern column had been totally robbed, however a layer of grey mortar in a square cut up against the northern edge of the steps seemed to indicate its position. To the south the column base had survived as a raft of irregular limestone blocks in a light grey mortar up against the southern edge of wall cut. This stairway seemed to be set in its own square room as defined by the southern wall of the structure which dog-legged around this feature and abutted into the eastern edge of the western wall of the building.

A third potential entrance was located in the westernmost section of the north wall. This was indicated by three limestone slabs, which seemed

to form a threshold. The slabs showed signs of wear, with the western of the three having a circular hole in it with striations around it, indicative of something having been opened and closed such as a door. The area to the north had been heavily truncated and it was difficult to understand where this door would have led to. It can be postulated that these stairs might have given access to the higher ground as defined by the top of the re-used Roman cisterns or Cardo IX, or, indeed, both places. There is some evidence for the existence of the staircase needed to gain access to the higher northern floor levels, including the levelling down of a previous Roman period wall. The existence of two limited north-south walls, which had been cut into the Roman stratigraphy on either side of the threshold, were also noted. It was thought that these could be traces of the walls, which would have bounded the staircase.

Evidence was also found that in order to incorporate these new east-west aisles, the eastern wall of Cardo IX south was levelled and re-built further to the west suggesting that this new structure encroached onto the street. As the railway line truncates this area, it was impossible to investigate this further. However traces of the new Cardo wall were found in the north-western area of the site were a fragment of walling was found measuring ca 11 m x 0.80 m constructed out of pieces of Roman column base, mosaic flooring and other masonry bonded with a grey mortar.

c The colonnades

The western wall of the basilica and the western columns of the east-west colonnades, defined the narthex. Flanking columns were also found either side of the outer northern and southern columns, which appear to have been set into the northern and southern main basilica walls. Only the northern column survived as the southern column had been robbed along with the southern wall. In between these columns were rectangular panels of mosaic 1 m wide aligned north-south. These only partially survived, as a number of earlier Punic cisterns were found below these floors which the column bases had been partially built over. The robbing of these columns had over time made this area unstable with the mosaic surviving largely where it was constructed over a solid foundation.

Beyond the narthex twenty possible cuts for column bases varying in distance from 1.5 to 2.6 m between each one were found cutting the mosaic floor. These robber cuts shared many common characteristics both in their backfilling often containing shattered columns, and the fact that they often used the walls of the late Punic cisterns for their foundations, bonding the masonry to the cisterns with *opus caementicium*. The column fragments found within the fills of the cuts indicate that the materials used for the respective colonnades were homogeneous. Pink limestone for the outer colonnade and blue/grey limestone for the inner colonnade. Several examples of these columns have been found in unstratified areas across the site.

In terms of the layout of these columns it was noticeable how the inner colonnades on both sides were almost double the size of their outer counterparts. This could especially be seen where the two *in situ* column foundations survived in the southern outer and inner colonnades. This suggests that the inner larger colonnade held two double columns with the outer smaller colonnade being a single column. The reason for this is that the inner double colonnade would have supported the clerestory while the outer colonnades would have supported the side roof.

d The mosaic flooring

The area of the 6th century basilica was covered by one floor level made up of mosaic. From the motifs used there were many ornamental parallels to mosaics firmly dated to the Justinianic period.[6] Beneath the mosaic was a 5 cm thick under-floor of greyish sandy, charcoal-flecked mortar. In the western area the under-floor overlaid a series of late Punic cisterns which had either been capped with fine limestone blocks or filled over with sandstone rubble and a yellow/brown mortar perhaps connected with Roman cisterns which partially utilised the earlier cisterns. This material had been levelled with a layer of stones bonded with grey mortar.

In places there were deliberate gaps in the mosaic along with accidental gaps, which periodically seemed to have been repaired. These repairs were invariably of differing qualities if not of different materials all together. The disturbances in general appear to have formed in several ways:

1. Areas in the floor where there was deliberately no mosaic, i.e. where an original internal structure would have been placed, respecting the mosaic edges/borders such as a column base/wall line.
2. Cuts through the mosaic floor e.g. where a cut had been made in the flooring presumably con-

Fig. 9. Door socket [970].

temporary with a later phase of the building, for instance to make internal changes to the building layout or structure.

3. 'Holes' which opened up during the life span of the Basilica which were repaired and floored over.
4. 'Holes' which have opened up in the floor post basilica due to the weight of overlying deposits collapsing into underlying voids.
5. Modern intrusions such as unrecorded excavations.

The mosaic of the narthex area showed significant stylistic differences from the mosaic flooring of the east-west aisles. The floor had been repaired on a number of occasions. This was evident in the north-western area of the basilica where part of the mosaic showed a much cruder finish than the earlier floors.

The area from the northern mosaic border of the central nave to the northern wall of the structure was 7.5 m in width. Two east-west colonnades split it thereby creating two east-west side aisles. The northernmost aisle was 2 m in width. There was one layer of mosaic broken into rectangular tableaux.

Abutting the northern inner colonnade to the south was a larger east-west aisle 7.5 m in width. This aisle was split into a smaller central area by another mosaic border running east-west on either side and north-south at its western most extent thereby creating the effect of the inner tableau being completely within the outer on all sides. The outer tableau running to the east and west measured 2 m in width. The inner tableau was 3.5 m wide. The design of the outer tableau was white grounded with 'pelta' motifs and knotted crosses in white, black, blue, brown, green and red. Only disturbed traces of the inner tableau remained. This was made up of a circular design with dark green, light green, red, black, blue glass tesserae on a white grounding. The change to more expensive building materials in this area was probably explained by the fact that it represented the very central aisle of the basilica.

There were a considerable number of different repairs to the mosaic floor. These ranged from whole new tableaux to very rough patching with roof tiles. Taking into account the vast difference in quality of repairs, it is thought that they must have taken place over the life of the structure. The fact that the east-west aisles are built over a series of late Punic and Roman cisterns would not have helped the stability of the flooring.

e Later alterations

There were other signs of significant alterations to the structure. A re-used column fragment had been cut into the mosaic floor between the in situ column bases and the inner and outer southern colonnades. A square socket had been cut into the top of it suggesting that it had originally held an upright post of some kind (*fig. 9*) possibly to form part of a doorjamb. It is interesting to note that the mosaic floor between the two columns and the socket showed very considerable signs of wear and had been patched up on a number of different occasions. This suggests that this area of floor saw a good deal of activity. In addition this mosaic surface was covered in wood ash and nails, which might be the traces of the door itself.

There was also good evidence for a narrow north-south robber cut running from the southern wall, which separated the baptistery from the basilica to the southern column. It was thought that this might represent a partition wall, which divided the southern outer east-west aisle of the basilica. Access would then have been gained through the new doorway. In effect this would mean that the doorway would have controlled access to the baptistery.

Along with these changes there are several indications that the central aisle was structurally modified at a later date as a number of interconnected shallow linear cuts and deeper circular cuts were found within the border of the inner panel of the central aisle (*fig. 10*). Two connected linear cuts were also found to the west. These internal features could be grouped into two east - west aligned areas of disturbance. These linear cuts contained traces of *opus caementicium*. In addition, the western most of the parallel linear

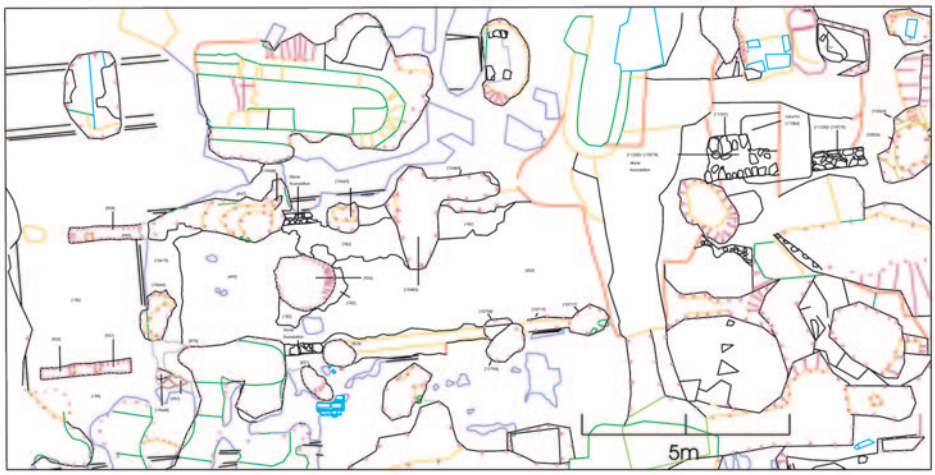


Fig. 10. Layout of the Solea.

cuts both contained peg holes, which were on a direct axis with one another. This suggests robbed out features. There was good evidence that these features continued in the main central area of the basilica where the east-west aisles met their north-south orientated counterparts.

These linear cuts seem to represent some kind of internal division within the east-west central nave supported periodically by posts set deeper into the ground. Considering their central position it seems most likely that they were chancel screens.

At the western end of the central area the reason for the segregation may be partly explained by a circular robber cut. Measuring 1.42 m x 1.3 m x 0.85 m deep, this cut potentially may have indicated the position of the ambo linked to the central apse by a slightly raised solea defined by the higher quality glass tessellated floor surface enclosed by a screen. In this way the outer aisles would have held the congregation, with the narthex to the west becoming a third aisle to hold them too.

The north-south aisles

In comparison with the western structure, the north-south structure appeared to have largely utilised the form of the earlier Phase II 6th century building with a number of modifications/additions.

a The walls

The western wall was constructed on the line of the original north-south terrace wall and defined the limit of the eastern and western areas of the 5th century AD building as well as the areas outside it. With the change in the design of the basilica in the mid-6th century AD, it provided the connection between the two areas. How this was achieved in terms of the construction was unclear, as this junction has been robbed. However, a number of possibilities can be suggested:

1. The wall may have remained with the western extension being utilised as a separate building used in conjunction with the baptistery to the south and the re-used Roman cistern to the north with access into the north-south structure by doorways put into the western wall.
2. The entire wall enclosed by the western extension may have been removed and floored over with all five aisles extending into the body of the basilica.
3. The wall may have been partially removed and columns built on to it, the wall thereby acting as a foundation.
4. The wall may have remained across the two outer southern and northern aisles but removed at the point where the central nave crossed it allowing access into the north-south structure at this point only.

The northern and southern extent of the wall must have survived to form the structural walls of the building at this point. The central part may have been removed. At this point columns may have been located as a number of cuts have been found on the line of the wall which appear to respect the lines of the colonnades.

The northern wall of the old basilica also seemed to have had undergone modifications. It appears that two side apses were added to the

Fig. 11. Northern apses, looking E.

Fig. 12. Eastern apse foundation [10872] abutting the line o.

west and east of the central apse that had been added as second phase to the older basilica in the early sixth century AD (*fig. 11*).

b The apses

Rather than being enclosed these side apses appeared to have been opened up to the main structure as the southern and part of the outer boundary walls of the chambers were removed. Once the walls had been removed it seemed that the cuts had been deliberately backfilled, deposit (10058), at which point the makeup level for the new floor of the mid-6th century structure had been laid over the top of them. This makeup layer (10424) was also found to physically infill the inner chamber where a possible flagged floor had been removed and the upper courses of wall equally removed prior to this infilling. A similar modification would presumably have occurred to the eastern chamber too. Material recovered form the backfill seemed to indicate a date of 575 AD for the construction of the apses. This might indicate that they were later additions after the construction of the main transept basilica.

Heavy truncation meant that the eastern wall was the hardest to define. Despite this it has been possible to ascertain the existence of the main eastern apse. This structure had been extensively robbed down to its foundations, however traces of it still remained (*fig. 12*).

It was clear that the western street and half of Cardo X itself had been removed with a new drain being constructed out of building spolia and *opus caementicium* to serve the scaled back road. All that now remained in the old eastern half of the cardo were substantial traces of *opus caementicium*. This material was bounded on both its southern and northern limits by substantial robber cuts, which aligned east-west. The southern robber cut (1.62 m wide by 1.38 m depth) had a slight curve to it on its northern side, which was most noticeable where it had truncated an earlier cistern as well as an early mosaic and the level-

Fig. 13. Infilled sockle [10540], looking W.

ling for the floor which were overlying the cistern. Traces of *opus caementicium* were found on the exposed face of the cistern where the east-west robber cut truncated it. The extent of this cut was unable to be ascertained. However it was not present in the west facing section of the machine trench 5.6 m to the west.

To the north-west, the northern edge of a similar curvilinear cut was observed cutting through a layer of Roman levelling material. Measuring only 0.92 m in length, remains of grey mortar along with mortared masonry were found attached to the side of the cut.

These two east west robber cuts are potentially part of the same curvilinear feature, which would have been centred on the remnant of masonry. If so this is very significant as from the shape of the cuts and the position on the eastern side of the basilica it would seem to suggest that the cuts formed the line of an apse with the masonry block having been an oblong foundation for the central arc to be constructed on. The structure would have been ca 9.9 m wide on its outside with an internal space of 7.8 m by 5 m east-west, comparable with the width of the main aisle of the east-west building situated to the west.

It appears that the apse would have partially encroached onto the eastern most aisle of the north-south building which would have extended up to this structure. With the apse becoming internal to the main structure a number of alterations had to be done to the area to the west of it (see below). In addition to this the apse would probably also have encroached onto the line of Cardo X to the east. This was indicated by the fact that the apse foundation had been extended ca 1 m to the east of the western wall of Cardo X, which formed the eastern wall of the 5th century building. A similar encroachment was observed at the western end of the main basilica where the main frontage was pushed over the line of the original eastern limit of Cardo IX too. Material recovered from the fill of the western drain of Cardo X would seem to confirm that the drain had partially silted up by the end of the 6th century AD.

c The southern area

It was difficult to fully define the southern limit of the building due to heavy truncation created by a large number of voids within the area. However evidence has been found which seems to indicate that the structure was extended beyond the limit of the earlier building. South of the western end of the earlier building were the remains of a number of sandstone ashlar cut blocks with a white mortar bonding which looked identical to the mortar used on blocks found at the northern end of the building associated with the construction of the western side apse. Aligned north-south and built on to the line of the Roman terrace wall these blocks had largely been robbed to the south.

The true form of the southern end of the building has yet to be properly defined. Future work in this area, which lies between the northern limit of the excavations of the University of Ghent and the southern limit of our excavations, roughly 4 m, will hopefully rectify this at some point. Potentially it may have formed another entranceway into the structure from the southern area. Equally though it may have corresponded to the form of the northern end with three apses to create a continuity in design.

d The colonnades

Internally the north-south aisles mainly followed the plan of its predecessor. However there were some changes. Two central columns were added to the final northern line of columns. Both these columns appeared to have formed the northern

Fig. 14.
View of the southern extension looking N.

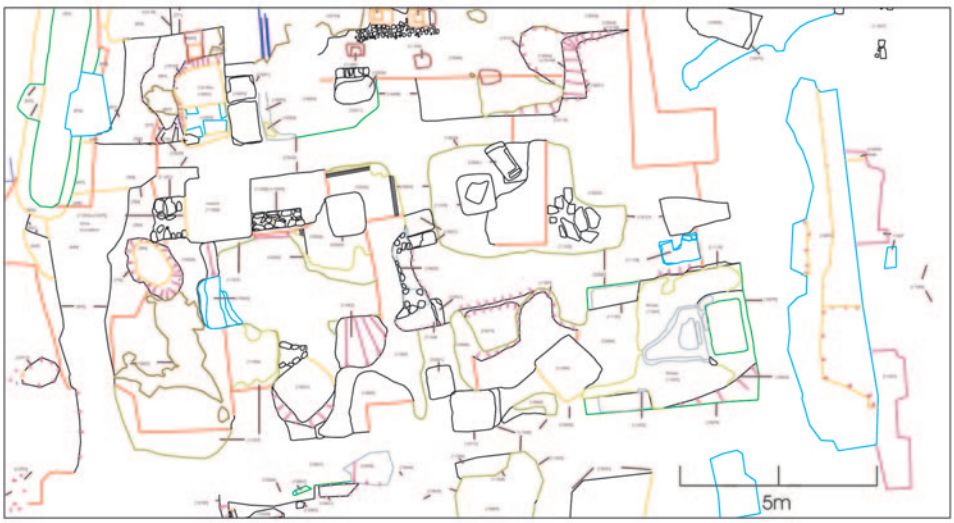


Fig. 15.
The central area.

Fig. 16.
Detail of the central area around the altar defined.

limits of the respective colonnades. Their positioning seemed to have been deliberate in that these would have abutted the southern edges of the newly opened up arcs to the northern triple apses.

Within the central area of the building the eastern side of the colonnade appeared to have had a number of its columns deliberately removed in the 6th century. At the same time, others that lay on the same axis as the east-west orientated colonnades columns seem to have been enlarged during the same period. This would have been required as these columns would have formed the connection between the main structure of the building and the newly constructed central apse. The robber cut which formed the arc of the southern side of the main apse, appears to extend from the eastern edge of one of these columns.

The central western side of the colonnade also seemed to have had a number of columns removed. In one case, part of the foundation base of the column was found *in situ* in the form of a block of grey, mortared rubble with straight sides and a flat upper face (*fig. 13*). A makeup level associated with the 6th century basilica floor was found to have sealed it. There was also some evidence that the matching western columns might have been enlarged like their eastern counterparts. It would have become necessary to widen the columns when others were removed in order to give access to the eastern area and to provide a central perspective from the western area to the eastern area with no obstructions. In order to support this loss the central columns would have been doubled to support the weight and span the increased gap of over 7 m.

In the southern area, two robbed out column bases were found. Both of these cuts measured roughly the same ca 1.25 m x 1.25 m x 0.75 m with traces of *opus caementicium* found adhering to the edges of the cuts. These columns although based on the shape of the robber cuts appear to have been angled to the main alignment of the columns of the building as a whole. Facing the altar the eastern column is aligned northeast-southwest whilst the western column, is aligned northwest-southeast. Although no real indications of similar angled column bases were definitely found to the north due to the amount of robber cuts that have confused the area, a re-used large threshold stone was found to the northeast on a very similar angle. This block may have been used as part of the foundation coursing for the column. Assuming a further angled column would have been located to the west corresponding in line with it would seem that based on their layout potentially these columns would have formed the bases of a dome centred over the altar.

To the south with the major extension of this area a number of modifications occurred. The two former columns, which had been located in the entrance vestibule of the 5th century AD building were removed. Material overlying the remnant of the *in situ* column dated to ca 550-575 AD, which correlated well with the overall change of the main structure. These columns were replaced with at least five new columns on the same alignment as the earlier east and west colonnades of the 5th century building (*fig. 14*).

e The central area

A number of other structural modifications also seem to have taken place in the area of the central aisle of the 5th century AD building (*fig. 15*). Directly in front of the apse and almost in the centre of the central aisle a rectangular block of grey mortar was found measuring 2.54 m x 0.80 m x 0.30 m (*fig. 16*). It had been built directly over the line of an earlier Roman wall utilising two of the blocks as foundations at the northern and southern ends. It is thought that this may have been the foundation for the main altar associated with the reoriented basilica. Just to the south of this foundation a piece of a marble table (or *mensa*) measuring 0.22 m x 0.10 m and decorated with a 9 cm wide ribbon and a *crux immissa* Graeca in a circle followed by an acanthus-leave, a typical Byzantine Christian motif was found in an unstratified layer. This highly decorated fragment may have been originally set onto the *opus caementicium*.

In regards to this altar a number of possibly associated features were discovered surrounding it. Four columns cuts marked out by the *opus caementicium* were discovered set in line with the four corners of the altar, enclosing the area around it and thereby demarcating a physical barrier around the central focus of the building. Potentially a ciborium may have been placed on the top of the columns to further define the space of the altar.

f The mosaic floors

Due to the amount of truncation which had occurred across this area very little of the floor plan of this north-south structure survived. Part of the western aisle was found consisting of a rectangular mosaic tableaux depicting animals, birds, plants and geometric designs. Nothing of the eastern aisle was found.

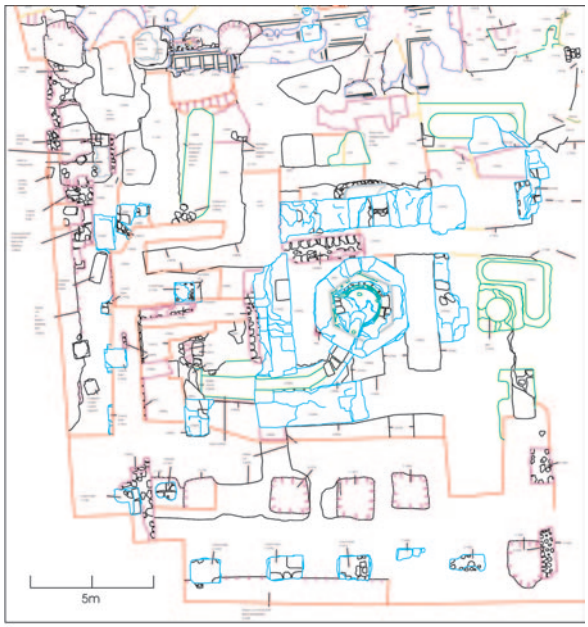


Fig. 17. The baptistery.

Fig. 18. Baptistery font looking NW.

Of the central nave a much wider strip of mosaic flooring depicting Greek crosses with inter weaved diagonal lines running through the crosses was found. The crosses were arranged in a diamond shape with transverse lines extending from them, the centres of which contained leaves in a cross motif. Interspersed within these central points were diamond motif, knots, flowers and hearts. With the repetition of the cross motif in the mosaic unlike the rest of the 6th century basilica where the mosaics in places could only be viewed from one point of reference this mosaic could be looked at from any point of view with no obvious change in their form.

Fig. 19. Baptistery font, drain [10759] looking SW.

A distinctive double wave affect surround enclosing a floral design on a black background bordered the central aisle to the eastern and western colonnades. This wave design also formed the northern border of the aisle. However, roughly in the middle of the northern line of the border a slight change was visible in the design of the mosaic. Although only a small part of this central panel survived there seemed to be a definite edge to it to the west and the tesserae seemed much lighter in colour. The reason for this change would appear to be deliberate as it would seem that two new columns had been added at this point potentially to form a division to the newly opened up northern apses. These apses may have had a separate role in the structure of the basilica. A barrier would have been needed to control access to them. The change in the northern border mosaic may have demarcated the main entrance to and from this structure. This may have been further accentuated by the positioning of screens between the columns. Overall this mosaic extended ca 16 m.

Very little of the floor in front of the central apse survived. However in places a few fragments of mortar were found which in appearance looked very different to the mortar used in the under-

floor for the rest of the north-south mosaic floor. Whereas this mortar was a whitish yellow compact deposit laid over a layer of cobbles the mortar used in the central area was a thin compact dark grey deposit. Although no evidence for anything having been set into this deposit was found a large amount of disturbed *opus sectile* was found across the area and robber cuts of the apse structure. The proximity of these cut marble floor pieces to the central apse may be important in that potentially this area could have been originally floored differently to the rest of the building. Such a differentiation may have been marked by the use of *opus sectile* for the floor rather than mosaic.

Due to the amount of truncation within the central area of the basilica no further mosaics have been found. However as this central area seems to have been the focus of the 6th century building centred upon the altar it is possible that the floor had been deliberately removed as it may have been of a higher quality than the rest of the building. This may also be the case in the central apse. In relation to the apse the makeup material used to infill this space would seem to indicate that this floor was also raised above the level of the rest of the main Basilica floors.

g The baptistery

The baptistery was the only part of the overall building exposed prior to the excavations (*fig. 17*). The structure of the baptistery had suffered much from robbing, although in this respect it had survived better than the basilica as the font and the western and northern associated foundation walls for a surrounding colonnade survived. Due to the survival of these structures a number of earlier excavations had taken place in and around the space of the font with varying degrees of success.[7]

The southern wall of the main basilica would have defined the northern wall of the baptistery, whilst the eastern wall would have been defined by the western wall of the earlier 6th century Phase II southern extension. The southern and western walls appear to have been totally new constructions.

Little of the western wall now remained. The robber trench itself has been in-filled with a rubble backfill. Mixed in with this deposit were large fragments of two different types of limestone column. At the northern end of this cut ca 1 m of the original foundation of the wall survived. Made up of large rectangular sandstone blocks they had been bonded with a coarse yellow sandy mortar. Overlying this was a greyish white mortar, which may have bonded the upper stones of the western façade to the foundations.

It was also clear that in its western extent the baptistery like the basilica had extended onto the line of the Roman Cardo IX. The foundations of the levelled former Cardo wall were also located.

As with the other walls of the baptistery the southern wall of the structure had been thoroughly robbed. Due to the obstructions of earlier spoil dumps and the location of the excavations of the University of Amsterdam directly to the south of this point only the northern inner edge of the cut was located. The area enclosed by the structure of the baptistery measured roughly 17.70 m east to west by 17.90 m north to south.

The baptismal font (*fig. 18*) measured 3.7 m x 4.1 m and had been constructed, with mixed reused stones bonded with *opus caementicium*. Originally it had been hexagonal in shape but at some point the inner space had been altered into a semi circle. The marble slabs, which had provided the inner façade of the original font, were simply covered over with a new coat of *opus caementicium* onto which new marble faces were affixed. The foundations of the font indicated that it had been trench-built, as traces of the intact reddish brown stratigraphy associated with material deposited when the Byrsa Hill was partially levelled and terraced by the Romans in the 1st century BC was found adhering to the outer faces of the font walls.

The south-western outer face of the font wall was the only wall that had been finished with a brick course. From this face a 0.5 m wide drain (10759) ran south west from the font, the drain having been lined by neatly cut blocks of Hamilcar sandstone (*fig. 19*). The robbed impressions of other blocks were also noted on the wall foundations. This channel would have drained water from the baptismal font as a plughole in the floor of the font lined up directly to the north-eastern end of the drain. The drain measured roughly 4 m and had initially dropped at a steep angle before levelling out ca 1.40 m from the western end. A number of *in situ* capping stones to the drain were found at the eastern end of it. The drain was slightly kinked to begin with, aligned northeast-southwest for ca 2 m before it straightened up. Potentially the western half of the drain may have been the course of an earlier drain with the eastern kinked half added at the time of the font. The drain was found to abut the southern baptistery wall and to cut through an earlier Roman wall and a Punic floor layer. The drain flowed into an east-west aligned late Punic cistern. Part of the primary fill of the drain after it had fallen out of use

Fig. 20. Reused marble column (10856) overlying the Punic cistern.

Fig. 21. Baptistery, southern column line, looking W.

remained at its junction with the cistern. This was found to contain many pieces of marble thought to have come from the sides of the font.

The cistern although late Punic in date showed a number of alterations to its design. At the western end of the cistern a large limestone column had been placed lying north-south over the top of it (*fig. 20*). This finely worked marble column seemed to have been dumped here to form a firm foundation levelling course as directly overlying this was a light greenish grey compacted silty sand layer which formed the bedding layer for a light whitish grey mortar floor surface. The eastern end of the cistern seemed to have been slightly altered with a large block placed across it and the walls of the drainage channel built over it. The water for the font appeared to have come from a well which had been built into the niche of a distinctive 'L' shaped cistern up against the eastern wall of the baptistery, therefore implying that it was inside the building. The well measured ca 1 m in diameter and was ca 4 m to the east of the font.

Surrounding the font were four inter-bonded walls, which were contemporary with the font, as they were similarly trench built *opus caementicium* walls with the Roman levelling deposit, found adhering to their inner edges. These walls had partially been robbed. However, where they survived they were noticeable for their width, which on average appeared to be ca 1.50 m. The use of these walls was unclear. They may have formed the original wall circuit around the first phase hexagonal font. Equally they may have formed the foundation for an inner upstanding enclosure wall, which would have surrounded the baptismal font thereby controlling access and viewing of the actual baptism. In both cases though the area enclosed by the walls would have been very limited. From north to east it measured ca 6.20 m whilst from east to west it measured ca 5.80 m with the space around the actual font measuring on average 1 m around the whole four sides. Such a restricted space around what would have been a major feature seemed at odds with the whole concept and ritual, which appeared to be the norm in connection with this major spiritual and physical observance. As such these walls may have had a more utilitarian use in that with the walls and font constructed the Roman levelling material which would have been found between these two

contemporary structures may have been removed.

The walls could have allowed the central area to be raised above the general level of the floor of the baptistery. This central platform may have further been demarcated with the placement of four columns on the walls, which would have supported a canopy over the central font. Indications of possible foundation blocks were found in the central part of the western wall, which survived to a height of ca 1.70 m. Set within the mortar a block had been placed, which appeared to be level with the top of the font. On the northern wall two similar set blocks were found too.

Throughout the area enclosed by the baptistery a number of similar blocks were located. All of these blocks were on the same axis as one another. They were also made out of sandstone fragments bonded by a greyish white mortar, which had cut the Roman levelling layer (*fig. 17*). All were rectangular measuring roughly 1 m x 1.40 m. Potentially these formed the bases for a series of columns.

In all, the positions of roughly twenty column foundations were found in the area defined by the baptistery which probably only represented half of the original number. The outer columns all appeared to have originally been partially built into the surrounding walls of the structure as at least on the southern, western and northern ranges the columns appeared to extend onto the line of the respective robber cuts of the walls. The westernmost column base uncovered of the most southerly line demonstrated this as on the southern edge of it a fabric of the build of the robbed out southern wall was found still attached to it.

The inner columns would seem to have formed a visible barrier around the baptismal font. In the process they would have controlled the physical layout of the structure forming a processional walkways around it. From the lines of the surviving foundations it appeared that on the western and southern sides of the baptistery there had been two aisles, whilst to the south and east there was only one (*fig. 21*).

The area of the baptistery in general was higher than the level of the main nave of the basilica, which had been deliberately cut down through the Roman terrace so as to equate to the level of the north-south structure. The baptistery kept the level of the terracing to the extent that it may even have been slightly raised. To gain access to this higher structure would therefore have been via a staircase. To the west, south and east the signs for the location of a stairwell were limited due to the degree of robbing that these areas had received. To the north though there were two possible areas

Fig. 22. Southern outer aisle mosaic (10926).

which may have been the access points.

To the south of the southern side entrance of the main basilica, two large mortared slabs were located. Smaller stones had been mortared to the western and southern sides of the blocks, which seemed similar to the smaller stones, which had been mortared around the blocks used in the southern side staircase. The slabs appeared to have been placed up against the eastern edge of the most northerly of the outer western foundation columns, which were found along the western wall of the baptistery defined by a robber cut. To the east and west the southern walls of the small square vestibule which had been built out from the southern wall of the basilica would have respected this stairwell. This entrance would then have given access to the double western and southern colonnades. By doing this it would have controlled access to the central area.

Due to the amount of truncation partially by robbing, partially by collapse, and partially by un-recorded excavations the exact structural position of the second entrance could not be physically located. However, as noted previously in terms of the ground plan the southern outer aisle seemed to have undergone a dramatic change at some point after it had been built. The mosaics which appeared to have followed the pattern of the outer northern aisle of birds in circular swirls surrounded by ivy leaves had been changed with the insertion of smaller individual panels along with a raised floor and associated wall at the western end of the outer southern aisle (*fig. 22*). A possible doorway also seemed to have been added across the inner southern aisle.

h The crypt

Various Roman cisterns had been located to the east of the central terrace line located in connection with the houses, which had been found there. These apparent domestic cisterns had all been flat

Fig. 23. Entrance into [319], looking W.

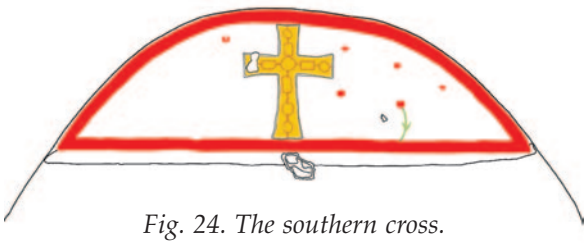


Fig. 24. The southern cross.

Fig. 25. Southern cross, inside [319].

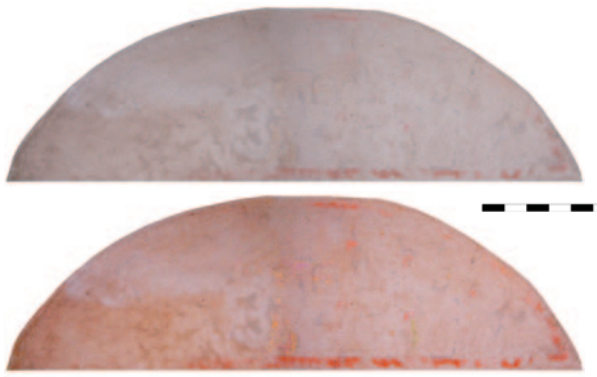


Fig. 26. Close up and defined image of the southern cross.

roofed rectangular structures found with floor surfaces laid over them. In some cases down drains had been located leading in to them with over flow channels constructed draining into the main drain of Cardo X. To the west the indications were fewer due to the lowering of this general area in relation to the construction of the east-west extension of the mid 6th century AD basilica. However to the north of the 6th century east-west extension two connected Roman cisterns were located set into the Roman terrace. Both these structures were made of heavily mortared limestone rubble with vertical walls 0.60 m thick and

Fig. 27. The northern cross.

Fig. 28. Northern cross, inside [319].

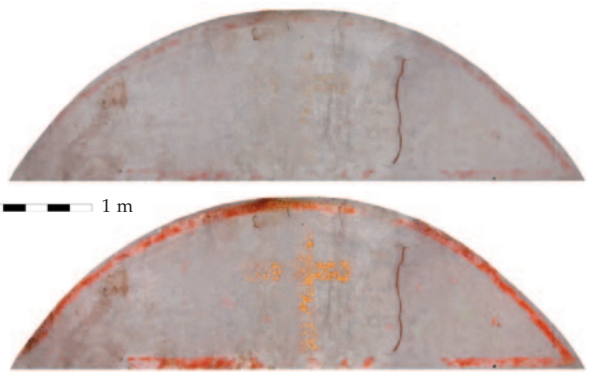


Fig. 29. Close up and defined image of the northern cross.

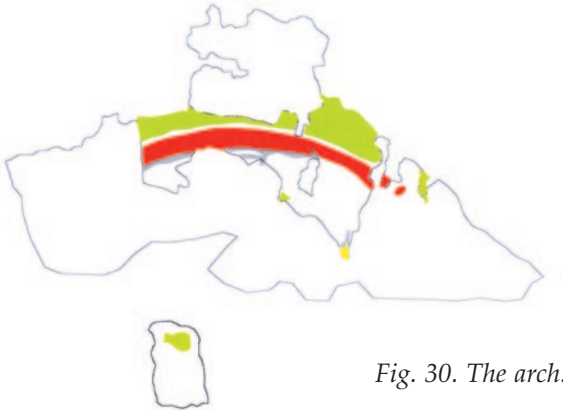


Fig. 30. The arch.

Fig. 31. Painted arch on the western wall of [319].

unlike the domestic cisterns to the east these had a concave roof sloping down to the west and east. The western cistern, measured ca 5 m x 3.5 m whilst the eastern cistern, measured ca 5.20 m x 4.10 m. The initial role of these two cisterns may have been connected to Cardo IX as a small water tank was found to the west of the western cistern on the line of the eastern wall of the Cardo. Outwardly this cistern survived virtually intact with two square well shafts cut into the roof of the structure. A slight hollow was found on the northern edge of the cut, which may have originally held a vessel to collect the water. However at some point the role of these structures changed when the northern cut was widened/modified to become the top of a doorway into the cistern.

This doorway had been deliberately cut through the western wall, which connected the cistern with its eastern counterpart (*fig. 23*). The edges had been cut straight with two steps cut into the base of the door to allow access into the interior.

Along the western outer wall of the western cistern a drainage channel was located which opened out into the inner void of the cistern. This had been connected to a drain, which had run to north diagonally across the dome of the cistern. These were removed up prior to the modification of the internal space of the cistern.

The internal dimensions of the structure measured ca 4.19 m north to south by 1.58 m east to west. The spring of the roof was 0.92 m in height. Another modification to the cistern was the introduction of wall paintings. The paintings were located at the northern and southern ends of the cistern within the arc created by the curve of the roof. Although they were very fragmentary the main designs could be identified. The southern painting was a roughly centrally spaced Greek cross in gold outlined in black (*figs. 24, 25, 26*). On the cross circular and rectangular shapes radiate off a central circle joined by wavy lines. Surrounding the cross were indications of what seemed like roses in red with green stems. A thick red painted band had been used as a border around the design. Following the arc of the roof it had a straight edge at the point where the roof adjoined the main east and west walls of the cistern. To the north a similar design of a central cross in gold with surrounding roses in a red banded border was located (*figs. 27, 28, 29*). A slight difference was noticed in the cross motif though. Unlike the northern cross the southern cross had a double black border around it interspersed by a white band. Also the motifs on the cross were different. In this case a central circular design had lines coming of it interspersed with thicker lines. These were not outline designs but had been in-filled in black.

Both these designs had been painted onto a layer of white paint, which seemed to have been initially applied to all the surfaces of the walls. Although slightly unclear, a secondary layer of whitewashing appeared to have been applied to the area of the walls below the roof arch. Noticeable only in small areas the second coat appeared to have been slapped on rapidly as compared to the initial coat, which had been applied with care. Presumably though these would have been contemporary, as the new coating of paint did not make any attempt to cover the northern and southern panels.

A further remnant of decorated painting was found on the western wall of the cistern opposite the entrance. Only a small part of what must be assumed to be the top of the design survived in the form of a red arching band with an inner black outline (*figs. 30, 31*). The outer edge had been picked out in white surrounded by a green band. A fragment of green paint was found within the

area enclosed by the inner red band along with a trace of yellow with black edging. As only a very small part of this motif survived it was almost impossible to imagine what this had originally depicted. In relation to this it was interesting to note that the area immediately around the remains of the red circle design had been particularly badly damaged. This damage had obviously been deliberate as a series of deep, vertical, score marks had been cut into the walls.

The whitewashing stopped in a perfectly horizontal line ca 1.60 m down all the sides of the walls. A slight lip was visible around the edge at this point suggesting that it had rested on something. As no more indications of paintings were found below this edge, the implications were that if the lip had been caused by an obstruction, then this may have equated to the level of the floor at the base of the cistern as it was at the time of its initial refurbishment.

At some point the internal space of the cistern was changed for a second time as the lip of white paint which appeared to mark the original floor level was found ca 0.40 m above the present visible floor surface (*fig. 32*). At the south-west corner the floor had apparently collapsed. A very mixed rubble deposit was found within this space, along with broken mosaic fragments, wall plaster and occasional vaulting tubes. This possible destruction debris contained objects dating from between the beginning of the 2nd century to the end of the 6th century AD. Much of this material could be remains of the structures, which were demolished to make way for the 6th century AD basilica. It was dumped in order to create the floor level for the re-furbished crypt of the initial cistern re-use associated with the wall paintings.

At the entrance to the western cistern a solid block of two steps measuring 0.78 m x 0.58 m x 0.56 m height was added to give access to the lower floor (*fig. 33*). It was constructed of rectangular roughly hewn sandstone blocks varying in size between 0.43 m x 0.27 m x 0.10 m to 0.39 m x 0.28 m x 0.08 m. They had been vertically stacked with a white mortar bond covering the sides of the steps. Potentially a third upper step had been removed as there was quite a drop between the inner cut step on the edge of cistern to the top block of the steps. These steps were placed directly onto floor.

On the western and eastern walls of the intact cistern, just below where the wall curved to form the roof arch, three evenly spaced rectangular holes were located (*fig. 34*). It is most likely that they held beams to support the roof. However

Fig. 32. Detail of the NW corner of the cistern [319].

Fig. 33. Steps [10356] inside [319] looking NE.

there has to be some doubt about whether these beams were in place during the period when the crypt was in operation because they would have obscured some of the wall paintings. On the lower floored part of the cistern four large ceramic water pipes were found stacked up against the eastern wall of the cistern (*fig. 35*). The remains of a fifth and sixth pipe were found on the floor of the cis-

Fig. 34. Joist holes on the western wall of [319].

Fig. 35. Waterpipes in situ up against entrance steps [10356].

tern after the removal of the deliberate infill of the cistern. These pipes had been deliberately set up here almost certainly at some point after the floor layer had been lowered though the reason for this was unclear.

In the north east corner of the cistern the remains of a small fire were found which had been set directly over the floor surface. This represented the final episode of human activity within the interior of the cistern prior to the space being in-filled with rubbish. In terms of the material, which had been used to infill the re-used cistern four fairly distinct deposits were encountered above the floor. In general all the deposits were fairly mixed in nature with the exception of the uppermost context which was almost entirely composed of rubble. During excavation it became clear that the three main earthen contexts were sloping from the eastern side of the building to the west and in particular to the north-west corner. This strongly suggested that the material had been thrown through the entranceway and the roof hole in the southeast, a point accentuated as more of a slope was visible from that direction with a higher concentration of rubble in the northwest due to this material weighing more than the finer, lighter material.

A large amount of building debris was found throughout the layers along with fragments of roof tile, vaulting tubes, wall plaster, floor fragments, mortar and worked stone including marble panelling and opus sectile pieces. All of the contexts, contained finds with a large bias towards domestic debris as vast amounts of pottery, animal bone and charcoal were recovered.

In terms of the dating for this deliberate backfilling material recovered presented a date range from the middle of the 5th century AD to the start of the 8th century. Within this range the date could be more accurately indicated as a fragment of pottery was found in the date range 675-700 AD thereby suggesting that the infilling had occurred closer to the end of the 7th century AD a date which appears to correspond with the basilica falling into disuse.

The internal dimensions of the eastern cistern were ca 4.21 m north to south by 3.05 m east to west. Infilling the void of this cistern were various layers of demolition material. Generally these deposits seemed to have been deliberately thrown into the cistern so as to create a floor layer for this internal space, which would have been required so as to gain access to the western cistern. The layers were all very similar and throughout contained evidence of broken mosaic fragments, wall plaster and occasional vaulting tubes. In composition they matched the material, which had been used as the makeup for the floor layers within the western cistern.

The layers appeared to tip from the south to north with the larger, heavier inclusions found up against the southern edge of the cistern (*fig. 36*). This suggests that the southern wall of the cistern had been removed by this time. This would then have made it easier to backfill this structure as well as the western cistern with the material derived from the dismantling of the western wall of the 5th century building directly to the south.

It did seem that the roof of the eastern cistern had been deliberately removed, as the top of the western wall onto which the arc of the roof would have been attached appeared to have been carefully levelled. A small rectangular niche had then been cut into the top of it. It was unclear

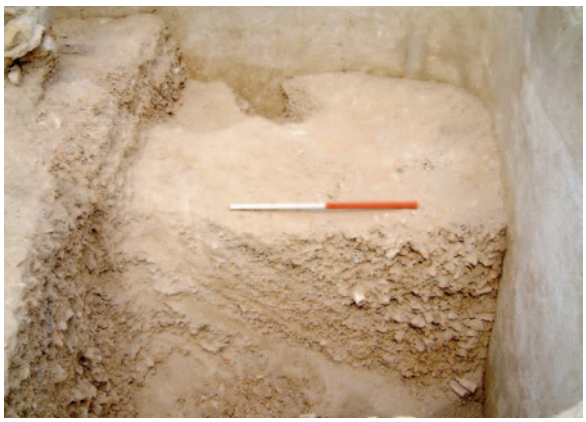


Fig. 36. Layers infilling [10391] tipping to N, looking W.

Fig. 37. Wall [10390] looking W.

what had been placed in this niche but as it was located directly to the north of the entrance to the western cistern it may have been connected to what went on inside the structure. Of the surviving southern arc it would similarly seem that at the point the door was cut through into the western cistern, the roof partially survived as a neat flat edge had been cut through the fragment of roofing, which formed the southern edge of the doorway.

With the transformation in the role of these two structures a number of changes appeared to have occurred to their outward appearance. Originally a casing wall had surrounded these cisterns to the south, east and west. Later the eastern wall had been removed and apparently deliberately backfilled from the eastern edge as the deposits tipped from east to west. Material recovered from these layers seemed to indicate that this episode of robbing and back filling occurred sometime in the second half of the 6th century AD. Prior to this backfilling a small arched niche had been cut into the eastern face. The material hammered out of this cut had been thrown to the south as the debris was found along the base of the cut overlying a fragment of in situ walling beneath the lower fill of the old terrace wall cut.

The foundation of the southern wall had partially survived comprising a random coursed rough limestone wall with a yellow sandy mortar. The upper courses of this wall along with the eastern and western extents had been robbed. At the western end the wall had originally turned to the south as indicated by a robber cut. A firm mid orange-red sandy silt 0.69 m thick had subsequently covered the wall and the lower part of the southern outer face of cistern. Overlying this layer was a 1.16 m thick mixed demolition layer used as a levelling layer after the destruction of the upper Roman level. A large amount of painted wall plaster was recovered from this deposit along with mosaic fragments, mortar, worked stone, pottery and bone. These layers seem very similar to the layers used to build up the level of the cisterns.

At the eastern extent of these levelling deposits the remains of a well-built slight northwest-south-east-aligned wall were found (*fig. 37*). Partially overlying the demolished upper southern wall of the eastern cistern, this wall was slightly ambiguous in terms of its dating as modern deposits were found up against it. Yet the building technique seemed to correlate to a number of walls seen elsewhere firmly dated to the Byzantine period. Constructed of varying sizes of limestone blocks between 0.10 m x 0.12 m x 0.10 m to 0.47 m x 0.29 m x 0.19 m it had nine visible courses and had been bonded with a very firm light yellowy brown sandy silt earthen mortar with small stone and chalk inclusions. It measured 2.28 m x 0.71 m and stood 0.99 m high. The lower four courses were slightly offset forming a slight ledge on the western side of the wall. The wall had been built over a rubble hardcore deposit, which infilled the foundation cut for the wall. This cut was found to truncate all the visible upper makeup layers of associated with the infilling of the eastern cistern. As such this wall may have been used as a retaining wall for the new use that the cisterns were put to in the 6th century.

To the north it was unclear as to its full extent but it must be assumed that it would have respected the doorway to the western cistern. To the south the wall may have abutted the main northern wall of the structure. If this was the case it

may have formed the western wall for a small paved area in front of the re-used cistern. It is important to note that a fragment of a mortar under floor was found to the east of the cistern truncated by the robber cut to the western wall of the north-south building. On the northern edge of this floor the foundations of a grey-mortared wall were found which seemed to line up with the remnant of wall to the west. The majority of this floor had been severely truncated. However it would seem likely that this could have potentially covered the whole area as it was found to be just below the level of the threshold of the cut doorway.

A further piece of evidence to back up this theory was found within the main basilica. The furthest surviving piece of mosaic found on the outer northern aisle shows a very obvious change in its design. This large panel of mosaic had a very distinct design of bird images surrounded by circular scroll motifs. Towards the western end of the aisle the birds were depicted facing west. At the eastern end the birds were facing south. Although the visible point at which the change in the layout of the birds orientation had been truncated it may be that the change represented the fact that the point of access to the cistern/crypt had been located at this north-eastern corner of the structure along the northern wall. The birds would therefore have faced the individual as they entered the vestibule surrounding the re-used cistern defined to the east by the western wall of the north-south structure, to the west by the wall and to the north by the line of the wall marked by the mortar layer.

If there was a lower eastern vestibule it would seem possible that the western area had been deliberately raised up in the form of an overhead gallery. In this case the material found to the west of the wall may have been used to raise the level of the area to the south of the cisterns so as accommodate potentially an upper room over the cistern. This room would have been defined to the south by the northern wall of the main basilica, to the west by the western frontage wall of the newly set back Cardo IX eastern wall and to the south by the wall indicated by the northern outer wall. At the southwest corner a possible staircase has been located which may have provided access to and from this upper level. In the north west corner two partial grey mortar remnants were found to the south. These two structures may have formed the foundation for two offset walls. The first was an east-west aligned random coursed linear structure bonded with a greyish white mortar. Measuring ca 2.10 m x 0.60 m the western end had been truncated by robbing activity. A rectangular robber cut had truncated the eastern end of it. This cut had also truncated the southern end of a second north-south aligned structure that had a light grey mortared limestone foundation, 0.60 m x 1 m x 0.70 m in depth. These mortar foundations seemed to have been connected and the northern end of first wall seemed to have been built into the northern outer wall. The interpretation of these structures was unclear as the majority of this area had been badly truncated through natural erosion and also by modern activity associated with the construction of the railway line directly to the west. Potentially they may have formed the foundations of supporting pillars. A square block was noticed on one of the walls, which seemed to correlate in a direct line to the line of the eastern limiting columns of the narthex to the south. To the east the second wall may have been a robbed column whilst to the east of this point the square niche noticed to the north of the entrance way may have held a column base. The re-use of these cisterns was a deliberate part of the re-development of the 6th century basilica. Both these structures were integrated into the overall design of the building.

Although nothing physically survived internally to define the role of this structure the iconography of the wall paintings and especially the use of the rose motif may suggest that it had originally been used as a tomb for either a founder or a martyr's relics. If this was the case it may possibly have been the tomb of the benefactor of the new basilica. Thus it might explain partially why the structure of the main nave had been cut down through the upper terrace. By creating an upper gallery over the shrine it would have alleviated any crowding of the faithful around the main tomb. Access to both areas would have been controlled. In connection with an upper area at this point it would also have accommodated any overflow of the faithful from the main structure who could still have participated in the main worship for this vantage point.

The later use of the structure, as evidenced by the apparent lowering of the floor and the addition of the steps to gain access to the lower floor was unclear. The timber joist holes, which would seem to be related to this change in role for the structure may suggest that it had been divided in two with a floor added below the curve of the roof.

From the evidence of the backfilled material recovered from inside the cistern it would appear that as the basilica had fallen out of use so had this structure too.

j The later history of the site

The last visible change which occurred to the internal structure of the building would seem to date to the second half of the 7th century when a rough flooring made up of dark grey mortar (635) was laid over the mosaic floor (150) within the western extension bordering the western wall of the Punic cistern. A 20 Nummi coin dated to the reign of Emperor Constans II and minted in Carthage between 647/648-651/652 AD in the mortar layer provided a *terminus post quem* for its construction.[8] Whether this was a deliberate change related to the actual fabric of the church was unclear as it was found nowhere else within the building as a whole. This change seemed to be the last visible occupation of this building.

From this point the structure seemed to have been abandoned. Throughout the building large amounts of stratified debris, including monumental fragments, building materials, wall plaster and significant amounts of roof tiles (many inscribed roughly with three diagonal stripes) were found overlying the mosaic floors within an extensive reddish brown destruction layer between 0.20 m-0.40 m thick. With the abandonment came the general looting of the building for raw materials so that all the walls were robbed in their entirety along with the columns and bases so that only the floors survived to indicate the former shape of the structure. Although in places even these were removed where it appeared that they had been constructed in higher quality materials such as the central solea and apses.

Not all the looted stonework would have been used as building material though as it seems that some of it might have been processed on site as at the southern end of the site a possible lime kiln was found which would have utilised the abundant source of marble as its raw material (*fig. 38*). Measuring ca 2.40 m across at the top this structure was made of sandstone blocks bonded with a yellowish mortar and had been cut down into the material which had been used to raise this southern area at the time of the changes associated with the Phase III basilica. The inner edges of the feature were found to slope at about eighty degrees and showed clear indications that high temperatures had been reached in this chamber as the visible stones in the walls were very red. This scorching was also visible around the sides of the cut where the material up against the edges of the kiln could also be seen to have been burnt.

The feature was excavated to a depth of ca 1.20 m but it was not bottomed. Despite this a large amount of worked pieces of marble fragments and columns were found in the backfill to the structure as well as some fragments of fired marble. A cut in the southern edge of the structure may have been how the material, which was to be burnt, was put into it and possibly how the resulting burnt material was retrieved. Large cracks in the mortar caused by the intense heat created by the kiln were found around the inner edges of the kiln. These faults may have been why the kiln fell out of use.

Fig. 38. Lime kiln [11245].

In the north-south transept wings, there were indications that a fire may have occurred as much of the northern half of its mosaic appeared to have been burnt. In some patches burnt layers were found above them which contained high quantities of roof tile, charcoal and other debris. The fills of many of the robbed out columns of the colonnades also contained quantities of burnt rubble and mosaic, which suggested the column bases had been robbed out after this part of the building had been destroyed by fire. Whether fire could have been the cause for the total abandonment of the building though was limited as in no other area of the building did destruction seem to have occurred by fire.

CONCLUSIONS

This imposing structure was built around the mid-6th century AD. During this period the old north-orientated basilica was enlarged, re-furbished and re-orientated. In order to create five new east-west aisles, the upper western terrace of the insula was cut down to the same level as its eastern counterpart. This new extension opened into the earlier lower building. As a result part of the western

wall of the building had to be removed. Where the central nave of the new east west aisles met those of the north-south transept wings, a domed hexagonal space was created. Within this space an altar seems to have been constructed under a ciborium. At the eastern end of the structure a central shell apse was built off the domed area. This eastern apse extended onto the Roman street cardo X. The apse also extended into the earlier building coming off the line of the eastern colonnade. To allow for these changes a number of columns from the earlier building were removed whilst some were extended. A number of new columns were also added.

This structure appears to have been entered from the west where three entrances were located which led into a narrow narthex structure divided from the main nave of the building by a colonnaded arcade. The main entrance was directly opposite the central apse. At the northern end of the earlier north-south building the central apse was retained although the side chambers were altered with apses added to the northern limit and the southern walls removed to open the space up. The southern entrance vestibule of the earlier building was levelled up and the columns removed. The southern wall of the earlier building was removed and the area to the south of it levelled up. The building was extended to the south and new columns built. The new extension may have ended in either a squared off end divided into separate rooms or an apse. Throughout the building a new mosaic floor was laid. The mosaic floor was respected by the robber cuts associated with the walls and colonnades of the east-west aisled structure thereby ascertaining that it was the floor of the structure when it was at its greatest extent. Many of the motifs found on the mosaic within the structure can be found to have parallels with those found in structures firmly identified as other Byzantine Christian basilicas in Carthage and other parts of North Africa. Periodically this floor appeared to have been repaired. The central motif of the east-west structure appears to have been distinguished from the rest of the floor panels as it seemed to have been made up of glass tesserae. This area was further demarcated possibly by screened chancel inserted after the floors had first been laid. Within this area the pulpit may have been located.

Flanking the southern wall of the east-west extension was a baptistery. The baptistery was constructed with the same material (*opus caementicium*) and in the same way (trench build) as the walls and colonnades of the east to west aisled structure thereby suggesting a contemporary Byzantine date. The font had originally been hexagonal and was surrounded by numerous columns. At some point the internal shape was altered to be semi-circular. At a date after the construction of the basilica and the baptistery, a potential new access point was created between the two structures through their shared southern/northern wall. In connection with this alteration the southern outer aisle floor changed with the introduction of smaller separate panels including a raised separated floor at the western limit of the aisle. A door also appears to have been added across the line of the inner southern aisle, which may have restricted the passage through this aisle.

In the north western area of the site, a Roman cistern, had been incorporated into mid-6th century building. It was decorated with wall paintings and seems to have functioned as a crypt. This structure may have been the reason for the lowering of the east to west extension. The function of this structure was altered with the lowering of the floor. There was evidence that this structure had been floored over and the presence of *opus caementicium* pillar bases suggested that it might have been partially covered. It is interesting to note that the south wall of the Roman cistern to the northern wall of the basilica was the same distance (3.8 m) as the distance between the north wall of the baptistery and the south wall of the basilica thereby suggesting an integrated function.

Although the function of the basilica cannot be definitely ascertained, its relationship with the baptistery, the finds from the site and the decoration on the main mosaic floor suggested that this might have been a Christian church or another type of Christian religious structure. Material recovered from underneath the floor and the motifs on the mosaics themselves strongly suggest a mid-6th century AD date.

The last secure evidence for habitation of the structure provided by grey mortar flooring over the mosaic floor had a *terminus post quem* of the mid-7th century AD. The Basilica seemed to have collapsed during or after extensive robbing of its supporting structures. The north-south aisles appeared to show evidence of widespread burning. A lime kiln discovered at the southern end of the site may have been the final destination for much of the marble from the site. It is likely that much of the ashlar blocks and columns would have been taken to be used as building material. From evidence recovered directly above the mosaic floors

the robbing activity seemed to have occurred sometime from 700 AD onwards.

ADDENDUM: THE POTTERY EVIDENCE

Claudia Kunze

The Bir Messaouda excavation has produced a large amount of contexts with pottery of various quality and significance. A detailed report will follow at a later date, but in the following the most important contexts for dating the different building phases on site shall be presented. All found fragments have been recorded and whenever this was possible dated. All diagnostic sherds have been treated as single finds, while body sherds where recorded as bulk finds, sorted by their vessel type and provenience. The classification and dating of the diagnostic sherds follow pottery chronologies for all the different wares that occur in Carthage, well established since the UNESCO campaigns in the 1970s and 80s (see description of wares below).

The subsequent wares have been found on the Bir Messaouda site and are relevant for this preliminary report.

Plain Ware/Buff Ware

Produced with the local red to orange clay (Munsell 2,5 YR 6/8 to 5 YR 6/6) showing inclusions of limestone, quartz and voids. The surface tends to be well finished, but never slipped, with a colour range from red to white (Munsell 2,5 YR 6/8 to 5 Y 8/2-7/2). A variant of plain ware but with light orange to creamy white clay and surface, sometimes with a tinge of green (Munsell 10 YR 8/3 - 5 YR 8/3 to 5 YR 7/6). The type series for the Roman forms of these wares were published by Fulford and Peacock in their reports on the pottery from the excavations of the British Mission at the Av. President Habib Bourguiba, Salammbo and the Circular Harbour site.[9] The Phoenician and Punic forms of these wares were recorded according to Vegas's new typology for these forms set up after studying the pottery finds from the excavations of various sites in Carthage conducted by the German Archaeological Institute.[10]

Punic and Roman Kitchen Wares

These are similar to Plain Ware but have a thinner wall and are harder fired. Fabrics range from orange-red (Munsell 2,5 YR 6/8 to 5 YR 6/6) to brown (Munsell 10 R 5/8, 2,5 YR 5/4 and 5 YR 6/4 to 10 R 5/8) or grey (Munsell 5 YR 4/1 to 5 Y 8/3), sometimes with a blackened or grey surface. These forms have been identified following the already mentioned typologies by Vegas for the Punic kitchen ware and Fulford and Peacock, as well as Tomber's publication of the finds from the excavation of the Circus for the Roman kitchen ware.[11]

ARS (African Red Slip Wares)

Locally produced imitations of the Italian *Terra Sigillata*. Distinguished from the imported wares by the local red to orange clay and slip (Munsell 2,5 YR 6/8 to 5 YR 6/6). This ware has been studies in great detail by Hayes.[12]

LRA 1-7

A series of transport amphorae from the Late Roman period. All of these types are imported to Carthage in vast amounts from various sources in the East Mediterranean. Riley established the typology for these vessels in Carthage with the finds of the excavations of the University of Michigan. They occur very frequently in Late Antique contexts in Carthage and their distinctive clay colour and temper often enables to identify even small body sherds.[13]

Selected contexts

Context 11256 (make up layer for earliest floors in Roman houses, underlies mosaic 11406)

The material from this context contained nine datable sherds. The majority of them belong to forms produced during the late punic and early imperial period. The latest sherd is a rim fragment of an ARS bowl Hayes Form 181/Fulford-Peacock Bowl Form 6 (150-400 AD). The circumstance that most of the pottery is of an earlier date suggests that with this fragment we have a rather earlier example of this form, which makes an overall date for this context around the second half of the 2nd century AD most likely.

Context 11258 (burnt destruction deposit sealing mosaic 11406)

Seven sherds from this context could be dated, six of which are ARS lamps and bowls that show a range from 150 to 425 AD and later. The latest sherd is a rim fragment of an ARS bowl Hayes Form 81B (450-500 AD).

Context 11263 (top most levelling deposit below mosaic 10822 which forms the floor of the Phase I building)

This context revealed only three datable sherds. The earliest one is a Punic plain ware jug from 600 to 300 BC, while the *terminus post quem* for this layer comes from a fragment of a LRA 1. The production of this amphora type started around the first quarter of the 5th century and continued to the end of the 6th century AD.

Context 11325 (make up layer which forms the levelling for the mosaic of the Phase I building)

Most of the six diagnostic sherds from this context date to the Early to Middle Imperial period. The latest sherd is a fragment of a casserole Fulford-Peacock Type 23 (ca 175-300 AD).

Context 11282 (deposit below chancel screen foundation)

In this context 37 sherds with a date range from 800 BC to 600 AD have been found with quite evenly spread dates within this rather long time span. Eleven of these fragments stem from forms with production dates starting in the first half of the 5th century AD and continue all the way through the century, some up to the end of the 6th century or even later. Most of these sherds belong to the local Roman kitchen or Plain ware, but there was also one fragment of an ARS flanged bowl Hayes Form 91A/B (450-530 AD) as well as one of a LRA 1 (425-675 AD). The presence of a large amount of early pottery is supposedly due to construction works in the area, through which the material recovered by digging through a earlier occupation layers. As there was no pottery with significantly later production dates it is unlikely that the 5th century pottery is residual and an overall date for this deposit of around the middle or the second half of the 5th century can be suggested.

Context 10058 (backfill after removal of parts of northern wall of transept when the two side apses were put in)

Again the 21 sherds found in this context show a wide date range, reaching from the Early Phoenician to late into the Byzantine period with fairly a fairly equal distribution of dates within this frame. An overall date for this context late in the 6th or even early in the 7th century is suggested already by a fragment of an ARS bowl Hayes Form 103/104 (500-625 AD), as well as by one of a flanged bowl in Plain ware, Hayes Class 1B (500-625/650 AD).[14] However, the *terminus post quem* is provided by fragments of two lids Fulford-Peacock Form 6 (575-625 AD).

Context 10424 (makeup layer for new floor of the mid-6th century changes of the northern area of the transept)

This context only contained 10 diagnostic sherds, but these show dates in a range from about 600 BC to 600/675 AD, probably again due to building activity on site. The latest sherds are one fragment of LRA 7 (400-600 AD) and two fragments of LRA 1 (425-675 AD). Although there is a considerable amount of older pottery in this context, these late dates make it likely that the makup layer is related to the changes of the northern transept area allocated to the late 6th century AD (context 10058).

Contexts 10337, 10338, 10342 and 10343 (filling of so called crypt, over floor level)

As the largest sealed deposits on site the filling of the cistern that was turned into a crypt or martyr grave deserves special attention and will be published at a later date in much more detail. Here it should only be remarked that it gives an excellent example of what pottery was available in Carthage around the late 7th/early 8th century, or more precise probably around the time when the city was conquered by the Arabs. What initially looked like different sloping contexts could be proven by the pottery finds to be actually one filling that must have been dumped into to the cistern within a short period of time. It included several vessels broken into pieces, which had been scattered throughout all the contexts with matching breaks of sherds from the uppermost and lowest of these layers. In total 592 sherds from all these contexts could be dated. 6 of them are Islamic glazed pottery, a ware that may have been brought to Carthage already in the late 7th century, but definitely occurs here with the Arab invasion. A date for the filling of the crypt late in the 7th century AD is also attested by 64 fragments of flanged bowls Hayes Class IC and IIB with a production date starting around 625/650 AD. These bowls were definitely produced untill the end of the 7th century AD and it cannot be excluded that this very popular form was still produced even after the Arab conquest.

NOTES

* This excavation would not have been possible without the support of the Institut National du Patrimoine and particularly A. Ennabli and F. Chelbi, the previous and present Curators of the Archaeological site of Carthage. We are very grateful for the financial support of the British Academy; The D.M.McDonald Fund; the Society of Antiquaries; The Faculty of Classics, Cambridge University; The Open University; British Tunisian Society; GB Airways.
The author is greatly indebted to Simon Greenslade who worked on the preparation of this article. A large debt of thanks is also owed to H. Hurst; L. Ennabli; R. Docter; H. Dolenz; C. Flügel; F. Rakob and W.H.C. Frend for advice and guidance.

1 Niemeyer *et al.* 1993; 1995; forthcoming.
2 Dolenz/Flügel forthcoming.
3 Chelbi 1988.
4 Docter/Chelbi *et al*. 2002; 2003; Docter forthcoming.
5 Frend 1985; Duval 1988; Ennabli 1997, 72; McCulloch 1997, 13; Miles 1999.
6 Ennabli 2000, 60-71.
7 Frend 1985; Duval 1988; Ennabli 1997, 72; McCulloch 1997; Miles 1999.
8 Hahn 1981, pl. 196.
9 Fulford 1984 and 1994.
10 Vegas 1999.
11 Vegas 1999; Fulford 1984 and 1994; Tomber 1988.
12 Hayes 1972.
13 Riley 1981.
14 Hayes 1978, 68.

BIBLIOGRAPHY

Chelbi, F. 1980, Découverte d'un habitat punique sur le flanc sud-est de la colline de Byrsa, *CEDAC* 3, 17-18.
Docter, R.F. 2002, Carthage Bir Massouda: excavations by the Universiteit van Amsterdam in 2000 and 2001, *CEDAC* 21, 29-34.
Docter, R.F/F. Chelbi/B.M. Telmini 2003, Carthage Bir Massouda: Preliminary report on the first bilateral excavations of Ghent University and the Institut National du Patrimoine (2002-2003), *BABesch* 78, 43-70.
Docter, R.F. forthcoming, Carthage. *The excavations at the Bir Massouda site 2* I, Ghent.
Dolenz, H/C. Flügel forthcoming, *Karthago* IV. *Römische und byzantinische Großbauten am Decumanus Maximus. Ausgrabungen des DAI Rom an der Rue Ibn Chabâat und der Avenue Habib Bourguiba*, Berlin.
Ennabli, L. 1997, *Carthage, une Métropole Chrétienne du IV^e^ à la Fin du VII^e^ Siècle*, Tunis.
Ennabli, L. 2000, *La Basilique de Carthagenna et le Locus des Sept Moines de Gafsa*, Paris
Frend, W.H.C. 1985, A Two Period Baptistery in Carthage, *CEDAC* 6, 42.
Fulford, M.G. 1984, The Coarse (Kitchen and Domestic) and Painted Wares, in M.G. Fulford/D.P.S. Peacock (eds.), *Excavations at Carthage: The British Mission* II, 2, London, 155-231.
Fulford, M.G. 1994, The cooking and domestic wares, in M.G. Fulford/D.P.S. Peacock (eds.), *Excavations at Carthage: The British Mission* II, 2, London, 53-75.
Hahn, W. 1981, *Moneta Imperii Byzantini* 3. *Von Heraclius bis Leo III 610-720 n. Chr*, Vienna.
Hayes, J.W. 1972, *Late Roman Pottery*, London.
Hayes, J.W. 1978, Pottery Report - 1976, in J.H. Humphrey (ed.), *Excavations at Carthage 1976* IV, Ann Arbor, 23-98.
McCulloch, P. 1996, The British Team in Carthage, *CEDAC* 15, 11-16.
Miles, R.T. 1999, Rescue Excavations of Ancient Structures between Cardines IX and X at the 'Bir Messaouda' site, Avenue Bourguiba, Carthage-Dermech, *CEDAC* 19, 41-44.
Niemeyer, H.G/R.F. Docter *et al*. 1993, Die Grabung unter dem Decumanus Maximus von Karthago. Vorbericht über die Kampagnen 1986-1991, *RM* 100, 201-244.
Niemeyer, H.G/R.F. Docter/A. Rindelaub 1995, Die Grabung unter dem Decumanus Maximus von Karthago, *RM* 102, 475-502.
Niemeyer, H.G/R.F. Docter *et al*. forthcoming, *Karthago. Die Hamburger Grabung unter dem Decumanus Maximus. Hamburger Forschungen zur Archäologie*.
Riley, J.A. 1976. Amphoras from the early Roman levels, in J.H. Humphrey (ed.), *Excavations at Carthage 1975* I, Ann Arbor, 108-123.
Riley, J.A. 1981, The Pottery from the cisterns 1977.1, 1977.2 and 1977.3. General discussion of imported Eastern Mediterranean Amphoras and Later Roman fine wares, in J.H. Humphrey (ed.), *Excavations at Carthage 1977* V, Ann Arbor, 115-124.
Tomber, R.S. 1988, Pottery from the 1982-83 Excavations, in J.H. Humphrey (ed.), *The Circus and Byzantine Cemetery at Carthage* I, Ann Arbor, 437-528.
Vegas, M. 1999. Phöniko-Punische Keramik aus Karthago, in F. Rakob (ed.), *Karthago* III, Mainz am Rhein, 93-219.

FACULTY OF CLASSICS
UNIVERSITY OF CAMBRIDGE
SIDGWICK SITE
SIDGWICK AVENUE
CAMBRIDGE CB3 9DA
UK
rtm1000@cam.ac.uk

BABesch 81 (2006, 227-262. doi: 10.2143/BAB.81.0.2014430)

Reviews

OLIVER J. GILKES (ed.), *The Theatre at Butrint. Luigi Maria Ugolini's excavations at Butrint 1928-1932* (Albania Antica IV). London: British School at Athens, 2003. 290 pp., 262 ills.; 30 cm (BSA Supplementary volume 35). – ISBN 0-904887-44-8.

Government-funded archaeological research is often used to establish or legitimise geopolitical paradigms, a process that has been called 'archaeology in the service of the state'. This was clearly the case in Italy during the 1920s and 1930s, when fieldwork abroad was exploited to advance the Fascist government's ideological and territorial claims. Campaigns run by the Italian Archaeological Mission to Albania, whilst rigorous in their practice and documentation, were closely bound with the ambitions and machinations of the Fascist authorities. It is appropriate therefore that the belated publication of the Italian Mission's excavation of the theatre at Butrint should present both the archaeological data, and the political climate in which it was obtained.

Between 1928 and 1932, the Italian Mission to Albania, under the directorship of Luigi Maria Ugolini (1895-1936), excavated and recorded the Greek and Roman theatre at the city of Butrint, where fieldwork had begun following an 'archaeological accord' between Italy and Albania in 1925. Italian political involvement in Albania increased throughout the 1930s until the country was made a protectorate and eventually annexed in 1939. Although the Italian Mission released its findings in a number of popular and academic formats, the series of excavation reports titled *Albania Antica* only reached its third issue. Ugolini completed a manuscript on the theatre before his premature death in 1936, but it was never published, and documents relating to the theatre became dispersed among Italian and Albanian archives.

Following a hiatus of 70 years, the work of the Italian Mission at the theatre in Butrint is compiled in a modern excavation report. By presenting original documents, photographs, and survey drawings alongside current commentary and criticism, the report aims to publish the excavation of a major structure from an important Classical site, but also to assess the practice of, and motivations for archaeological research in Fascist Italy. The first four chapters deal with the circumstances of Italian fieldwork in Albania, considering Ugolini and the Italian Archaeological Mission to Albania (Oliver J. Gilkes), the excavation of the theatre (Lida Miraj), the Ugolini manuscripts in the Museo della Civiltà Romana, Rome (Anna Maria Liberati), and providing an inventory of documents relating to the Italian Archaeological Mission to Albania. The second section presents Ugolini's text, 'Gli scavi del teatro', followed by a summary and reassessment in English by John Wilkes. Frank Sear considers the phases of the Butrint theatre, comparing its architectural elements with examples from other Classical cities, and the final chapter publishes Ugolini's description of recovered sculpture, along with a commentary by Iris Pojani.

In June 1928, four months after excavations at Butrint had begun, Ugolini's team unearthed large, marble statues near a major structure, first thought to be a basilica, but which turned out to be remains of the *scaenae frons* or Roman stage building. Further digging revealed the distinctive rows of seats in the auditorium. The Greek structure was built in the Pyrrhic period (297-271 BC), and it was closely associated with, and lay within the precinct of the sanctuary of Asclepius. Following Roman colonisation in the Augustan period (after 27 BC), the theatre was substantially re-modelled, including changes to the *cavea*, *orchestra* and *scaena*.

Ugolini recognised the two major phases in the theatre's construction, although not much of the Greek building remained, and his lack of attention to ceramic and coin finds did little to assist chronology. The fieldworkers' main task involved removing earth and boulders from the *cavea*, which had built up to a height of several metres. The excavation was recorded by Ugolini in notes and photographs, and the structure was surveyed by the mission's chief architect Carlo Ceschi. As well as a formidable output of publications, results of the Albanian campaign were trumpeted in press reports, documentary films, lectures and exhibitions as part of a broader, government-orchestrated cultural programme.

Modern commentary on the Butrint theatre deals with separate elements of the structure, discussing and adding to Ugolini's descriptions. This format is largely concerned with the progression of the building, particularly addressing alterations made in the Roman period. The later incorporation of the Shrine of Asclepius into the outer *cavea* involved constructing a complex vaulting system, but overall, the changes to the theatre were typical of Roman rebuilding during the Imperial era.

The Theatre at Butrint is a multi-layered report which rightly depicts archaeological research as a political as well as scientific enterprise. My main criticism is that the building itself is not fully contextualised in terms of its purpose and meaning as an element of the Greek and Roman city - a venue for recreation, politics, judicial activities, social stratification and economic expression. It is hard to discern any historical information about Butrint's inhabitants from technical descriptions of architecture, and little reference is made to epigraphic evidence. Whilst the report admirably adds to the body of empirical literature on Classical theatres, and is interesting for historians of archaeology, it somewhat lacks synthesis.

William Anderson

P.A. MOUNTJOY with contributions by B. Burke, K.S. Christakis, J.M. Driessen, R.D.G. Evely, C. Knappett and O.H. Krzyskowska, *Knossos: The South House*. London: British School at Athens, 2003. XIII and 238 pp., 71 figs.; 10 pl., 2 tables; 30 cm (BSA Supplementary Volume 34). – ISBN 0-904887-42-1.

The so-called South House is located at the south-west corner of the Minoan Palace at Knossos, one of the better preserved neo-palatial mansions being excavated on Crete. It was constructed during MM IIIB/LM IA and probably collapsed at the end of LM IA. It was originally excavated by A.J. Evans and D. Mackenzie in 1908, re-examined by them in 1924 and again re-examined by the British School at Athens and the Archaeological Ephorate of Heraklion in 1960, 1989 and 1993. A brief summary of the results from 1908 and 1924 was published by Evans in *Palace of Minos* volume III, part 1 in 1928 but a real stratigraphy of this site was never given (p. xiii). The only part of the South House which unveiled anything that could be regarded as material in a normal stratigraphical situation was the Lustral Basin. Special items like the architecture of the house, some of the silver vessels, the frescoes, the bronze tools and a single stone vase were mentioned in several publications during the last decades. All objects with an excavated provenance from the South House, including material nowadays in the Archaeological Museum of Heraklion, the Stratigraphical Museum at Knossos, and the Ashmolean Museum at Oxford are now published or republished in the reviewed volume.

The Introduction chapter is by the editor P.A. Mountjoy (henceforth M) who records the history of the excavation and subsequently tries to reconstruct the stratigraphy by making cross pottery joins. J.M. Driessen presents an architectural overview in a very summary form (only 8 pages, being the most interesting part of this volume), with some additional comments on the building's orientation, access system, phasing, and overall interpretation. The fresco fragments are treated by M, while the last chapters are concerned with the *pithoi* (K.S. Christakis), the silver vessels (M), the stone, bone, ivory, bronze and clay finds (R.D.G. Evely), the loom weights (B. Burke) and the seals (O.H. Kryszkowska). Not surprisingly, the majority of the material in this volume consists of the pottery (p. 41 till p. 152) which is treated by C. Knappett (EM and MM, but only a small quantity of the already by Evans and Mackenzie selected material is published here) and M (LM I-III). Here also begins the problem with this volume. Already during the excavation, the pottery was so fragmentary that out of an enormous amount of LM I-III pottery sherds, only six pots could be reconstructed (p. 51). The remaining pottery also suffers from two other shortcomings, which greatly reduce its archaeological significance. In fact, the original excavators dismissed all the excavated ceramic material except for the decorated pieces and then only for the fine ones. As a consequence, only a very small quantity (800 pieces) of the original ceramics at this site survived. The search for joins to restore vessels in the first chapter cannot be taken very seriously as the material from other excavations on Crete (Phaistos and Mochlos) show how small a percentage of the total ceramic assemblage consists of these fine decorated material. The fact that the LM IB and LM II pottery sherds must have been dumped from the palace over the ruin of the South House after its destruction, causing a mix with the earlier material, is also gravely dismissing its significance. Finally, the original stratification described by Mackenzie was ignored when the pottery was stored in boxes while the individual sherds were not labelled. The 34 boxes contained a mixture of at least three or four centuries worth of pottery (including EM II and III and probably even Neolithic material). According to M, the main reason for this publication is a quote from M.R. Popham in 1970 concerning the importance of the LM IB and LM II pottery from the South House (p. 1). But today, there is plenty LM II material available from other sites. M dates the destruction of the house at the end of LM 1A but this is solely based on the silver vases and the bronze tools, as the provenance of the ceramic material is totally unreliable. The conclusion of M that the South House was destroyed by an earthquake caused by the Santorini volcano eruption is pure speculation and not based on any archaeological or geological evidence. The same irritating speculation, not based on any material, can be found by K.S. Christakis regarding the social behaviour of the inhabitants of the South House (p.161). This publication can be seen as an example of archaeology of the archaeology but the question remains if the money for this expensive volume is well spent on the publication of a selected and not representative amount of ceramics from which the provenance is unreliable. This while a large amount of material, not only on Crete but also in Greece and the whole Mediterranean area is still unpublished through lack of finances. This publication tends to hobbyism and has very little to offer for the refining of the LM I and II ceramic chronology on Crete or our historical understanding of its 15th century B.C.

Jan G. de Boer

LISA C. PIERACCINI, *Around the Hearth. Caeretan Cylinder-stamped Braziers*. Roma: «L'Erma» di Bretschneider, 2003. 256 pp., 115 ill. nel testo; 31 cm (Studia archaeologica, 120). – ISBN 2-503-51279-8.

Il lavoro viene a colmare una lacuna ormai pluridecennale (cfr., pp. 9 ss., la presentazione di F. R. Serra Ridgway) in questo importante settore degli studi ceramologici, ed è destinato a diventare opera standard nel panorama degli studi sulla cultura materiale etrusca di epoca orientalizzante e, soprattutto, arcaica.

La prima parte (pp. 37-156) è interamente dedicata all'ampio catalogo, che, grazie a una capillare opera di ricognizione museale (comprendente alcuni dei più importanti 'storerooms' dell'Etruria meridionale, come quello ceretano della Banditaccia), accresce in misura cospicua il numero degli esemplari noti, proponendone una articolazione per tipi iconografici, che sfiorano globalmente la cifra dei novanta.

Segue (pp. 159-175) una discussione dei possibili prodromi dell'età del Ferro, dell'incidenza di eventuali modelli vicino-orientali, dei caratteri morfologici, cui si aggiunge un'ampia disamina, condotta sulla base di vecchie e nuove evidenze di scavo (pp. 168 ss.), della effettiva funzione di questi prodotti di artigianato 'domestico', veri e propri 'portable hearths' con funzione di 'heating, lighting and cooking' (p. 206), in contesti tanto abitativi che santuariali, con una ovvia proiezione nel sistema spaziale ritualizzato della tomba (significativi, in questo senso, soprattutto i rinvenimenti nell' 'antica-

mera' della t. 43 Bufolareccia o sul trono della t. III del Tumulo Maroi, p. 170) e nel complesso di cerimonie che dovevano svolgersi presso l'edificio funebre.

Piuttosto ampia anche la disamina (pp. 177 ss.) dei precedenti orientali della tecnica della decorazione a cilindretto, della funzione mediatrice svolta in questo specifico settore dalle botteghe corinzie (un dato, questo, largamente accettato nella letteratura scientifica), dei possibili materiali usati in antico come matrici (forse più pietra che legno, cfr. p. 183) e, infine, degli aspetti tecnici dei fregi dei bracieri ceretani (altezza dei rilievi, tipo dei bordi, direzione delle scene figurate, ecc.).

Avrebbe, invece, richiesto maggiore attenzione il capitolo relativo all'inquadramento stilistico e iconografico dei rilievi (pp. 189 ss.), ove, accanto a una divisione per periodi (pp. 189-190: dai fregi animalistici di ispirazione tardo-orientalizzante alle scene narrative di impronta *East-greek* e poi attica) già indicata in sostanza da altri studiosi, si propongono definizioni o singoli confronti non sempre pienamente soddisfacenti da un punto di vista culturale o cronologico (così, e.g., nel rimando al P. del Bellerofonte di Egina, p. 51; nei ripetuti rinvii alle hydriai ceretane, datate in blocco alla metà del VI sec. a.C. (cfr. J.M. Hemelrijk, *Caeretan Hydriae,* Mainz 1984, 152-153); nella datazione un pò troppo generica delle lastre fittili di Larisa (cfr. E. Langlotz, *Studien zur nordostgriechischen Kunst,* 1975, 80 ss.); nella definizione di sfingi e chimere come animali fantastici di origine *East-greek,* p. 190; nella riasserita (p. 206), ma generica, 'close connection to Caere' del P. di Paride; o, ancora, forse, nella non sufficiente valorizzazione delle lastre dipinte ceretane, per le quali cfr. M. Cristofani, *StEtr* 56, 1989-90, 69 ss.; M.A. Rizzo, in *Tyrrhenoi Philotechnoi* 1994, 51 ss., con rimandi). Un *Updating* bibliografico non avrebbe nuociuto alla trattazione dei diversi temi mitologici, mentre sarebbe stato auspicabile soffermarsi maggiormente sul quadro archeologico ceretano, arricchitosi in misura così cospicua negli ultimi anni (cfr. il rapidissimo cenno a p. 194).

Un lavoro senz'altro utile, dunque, che non mancherà di essere un riferimento obbligato per tutti coloro che sono impegnati nello studio della antichità ceretane.

Fernando Gilotta

A.J. Clark/J. Gaunt/B. Gilman (eds.), *Essays in Honor of Dietrich von Bothmer* Vol. I-II. Amsterdam: Allard Pierson Museum, 2002. 348 pp., 88 pls.; 31 cm (Allard Pierson Series, vol. 14). – ISBN 90-71211-35-5.

Un nuovo volume della serie maggiore dell'Allard Pierson Museum è stato dedicato da amici, colleghi e 'discepoli' a D. von Bothmer - storico Conservatore delle antichità classiche al Metropolitan Museum di New York - per onorarne la lunga attività e il profilo della produzione scientifica, incentrata per decenni eminentemente (ma non esclusivamente) sulle ceramiche figurate greche di epoca arcaica e classica. A questo specifico spazio degli studi antichistici è, di conseguenza, dedicata larga parte dei contributi, opera di alcuni tra i più qualificati specialisti del settore, soprattutto di estrazione anglosassone, che non mancano di rifarsi a problematiche toccate in più occasioni dallo stesso 'honorand'. Molte quindi, nell'insieme, le novità grandi e piccole, sia nel tradizionale orizzonte attribuzionistico che nelle riletture di marca iconologica o nelle ricostruzioni di carattere storico-commerciale.

I diversi articoli, disposti in una sequenza alfabetica, possono essere riuniti in alcuni nuclei abbastanza omogenei. Le figure nere, innanzitutto. Apre, idealmente, la serie A.J. Clark (pp. 73 ss.), con il riesame di alcuni 'red-bodied vases', da agganciare alla produzione del P. di Amasis e databili già a partire dagli anni immediatamente precedenti la metà del VI sec. a.C. (in questo senso appare ovvio il riferimento agli studi dello stesso von Bothmer sul pittore attico); H. Mommsen (pp. 225 ss.) si sofferma sui frammenti di una eccezionale anfora da Satyrion, firmata da Exekias come ceramista e ceramografo e databile verso il 550-40 a.C., che reca una delle più antiche rappresentazioni del 'Tritonabenteuer' di Herakles (per l'importanza documentaria del reperto in relazione alla sua provenienza e al contesto santuariale di origine, cfr. soprattutto F.G. Lo Porto in *Atti del XVII Convegno di Studi sulla Magna Grecia* (1978), 499; anche E. Lippolis/S. Garraffo/M. Nafissi (edd.), *Taranto* (1995), 83 ss.; in generale sul problema Satyrion-Saturo, E. Arena, in *Studi di Antichità* 10 (1997) 255 ss.; più recentemente, *Atti del XLI Convegno di Studi sulla Magna Grecia* (2002), ad. ind.); interessante appare il recupero, da parte di J. Neils (pp. 237 ss.), di una hydria attica a figure nere con iscrizione recante il nome del ceramista apposta, insolitamente, sotto il piede; mentre J. Oakley (pp. 245 ss.) esamina una 'nuova' rappresentazione di Hypnos e Thanatos in atto di depositare il cadavere di Sarpedon in Licia, riferibile ai primi decenni del V sec. a.C. e accostata al P. del Vaticano G 49; non del tutto persuasiva appare invece la convinzione di E. Simpson (pp. 303 ss.), che le differenze nel rendimento degli arredi sulle due facce della celebre anfora bilingue di Monaco 2301 indichino con assoluta certezza l'opera di due pittori diversi, il P. di Andokides e il P. di Lysippides, il primo dei quali in grado di mostrare una 'empirical knowledge of the craft of woodworking' che il suo collega a figure nere non possiederebbe: troppe appaiono, infatti, le variabili e i condizionamenti tecnici che potrebbero aver influenzato una diversa scelta del o dei pittori nell'ambito di quella che era comunque, è bene ricordarlo, un'unica bottega. A cavallo tra figure nere e rosse si collocano anche i contributi di A.F. Laurens (pp. 179 ss.) e di E.A. Mackay (pp. 203 ss.): il primo affronta il problema delicato, e forse bisognoso di ulteriori approfondimenti e considerazioni, del rapporto tra vasi da simposio e loro decorazione figurata, analizzando due kylikes con enigmatiche immagini di giovane e ketos (?) e di personaggio barbato con sirena al di sopra del capo; il secondo il nesso tra la classica pettinatura a capelli corti e riccioluti ed immagini di Herakles, di atleti, di negri.

Una lettura del cratere ceretano di Euphronios a New York in sintonia con le più recenti tendenze esegetiche degli studi ceramologici propone J. Mertens (pp. 211 ss.), che sottolinea, in un contesto interamente 'superumano', la natura mortale dei due 'onlookers' laterali, Leodamas e Hippolytos, possibili proiezioni mitiche di coloro che acquistarono in antico e poterono poi ammirare tra i propri arredi il vaso con le sue rappre-

sentazioni narrative: attraverso questo meccanismo di compenetrazione, la scena verrebbe a caricarsi di partecipe 'complexity and intensity', di 'immediacy, not to say reality' (su questa linea, cfr. già numerosi contributi di I. Scheibler). Ancora al mondo di Euphronios e dei pionieri si riferisce M.S. Venit (pp. 317 ss.), con puntualizzazioni relative alla c.d. 'sandalocrazia'; B. Cohen e H.A. Shapiro soffermano l'attenzione sull'uso e l' 'abuso' che dei vasi si fa nel repertorio iconografico della ceramica attica tardo-arcaica, spesso ispirato ad occasioni di estremo realismo nell'ambito dei 'riti' sociali del komos e del simposio. A.P. Kozloff (pp. 165 ss.) dà una stimolante lettura in chiave 'egyptianizing' del noto name-vase del P. della Fonderia, inquadrandone le peculiarità nell'ambito della fitta trama di rapporti e imprestiti tra mondo greco ed Egitto, fra i quali è forse da annoverare anche lo straordinario sarcofago di Gümüşçay rinvenuto in anni recenti (N. Sevinç, *StTroica* 6, 1996, 251 ss.; *RdA* 22, 1998, 11 ss.; *Prospettiva* 98-99, 2000, 159, nota 15 (con altra bibl.); G. Schwarz, *AM* 116, 2001, 35 ss.; F.-H. Pairault Massa, in *Hommages à Carl Deroux*, 2003, 186 ss.; su alcuni aspetti della questione, cfr. più recentemente i diversi contributi raccolti da P.C. Bol/G. Kaminski/C. Maderna, *Fremdheit-Eigenheit. Ägypten, Griechenland und Rom*, *Städel Jahrbuch* 19, 2004). D. Williams (pp. 341 ss.) dà un'altra prova importante della sua connaisseurship in relazione a una personalità minore del panorama ceramografico del primo ventennio del V sec. a.C., specializzata fra l'altro in alabastra, tentando insieme una lettura 'contestuale' delle tematiche legate a questa specifica forma vascolare (cfr. in proposito anche le considerazioni di E. Böhr in questo stesso volume, pp. 43 ss. e, ora, anche P. Badinou, *La laine et le parfum* (2003)). In epoca severa e protoclassica si collocano le evidenze ceramiche oggetto degli studi di J. Chamay (pp. 69 ss.), J.M. Padgett (pp. 249 ss.), M. Pipili (pp. 275 ss.), N. Kunisch (pp. 171 ss.): il primo riferisce l'enigmatica rappresentazione di una coppa attica del 470 ca. a.C. all'operazione di conio di una moneta da parte di un artigiano; il secondo esamina un cratere-psykter del P. di Troilo, singolare per la sua struttura ma anche per l'impianto a 'fregio' delle due non comuni rappresentazioni che ne occupano il corpo e che vedono come protagonisti due 'outsiders' del consesso ellenico degli dei, Herakles e Dionysos, quest'ultimo seduto a ricevere l'omaggio di altre divinità; la terza pubblica uno 'yo-yo' dipinto rinvenuto in contesto tombale attico del secondo quarto del V sec. a.C., proponendo ipotesi in relazione all'uso di questi oggetti e al suo eventuale nesso con le corrispondenti rappresentazioni figurate (di carattere erotico, 'magico', beneaugurante); più tradizionale la presentazione, da parte di N. Kunisch, di una kylix del P. di Penthesileia, che si segnala soprattutto, in un contesto di 'partenza del guerriero', per il gruppo madre-figlio, capace di dare un non comune tocco di 'emozionalità' alla narrazione. Sul tanto dibattuto problema della c.d. 'Tomba di Brygos' di Capua torna J. de La Genière (pp. 175 ss.), che a ragione rifiuta la lettura etnica data a suo tempo da altri studiosi, per ribadire la piena italicità del complesso (in questo senso, cfr. ora anche C. Reusser, *Vasen für Etrurien* (2002), 184 ss.). Di grande interesse la lekythos a figure rosse, databile verso il 460 a.C., discussa da M. Schmidt (pp. 289 ss.), con rappresentazione di un personaggio femminile (una ninfa?) in atto di stendere un velo su Medusa morente e partoriente, nello schema ben noto, e.g., nella rappresentazione di Tekmessa che copre il cadavere di Aiace sulla coppa del P. di Brygos, ma altrimenti sconosciuto nell'impresa di Perseo e la Gorgone e, potremmo dire, pienamente rispondente allo spirito della pittura 'etica' del tempo. Recuperando ipotesi formulate in passato e, soprattutto, valorizzando i dati dei recenti restauri (Denoyelle 1997), J. Gaunt (pp. 121 ss.) ipotizza una lettura del lato 'B' del cratere dei Niobidi al Louvre in relazione logica con le immagini del lato opposto: una versione tebana della uccisione dei figli di Niobe, che potrebbe conciliarsi per i suoi accenti moralistici con la vittoria sulla hybris persiana adombrata nei preparativi greci allo scontro della rappresentazione principale. Tra le novità singolari di questa raccolta di scritti, si segnala certamente il piccolo stamnos-olla presentato da A. Lezzi Hafter (pp. 187 ss.): attribuito al P. di Mannheim e datato verso i decenni centrali del V sec. a.C., il vaso, forse ispirato a forme in voga sul mercato etrusco, reca uno straordinario fregio continuo con probabile rappresentazione della partenza di Achille da Skyros, soggetto noto da altri vasi monumentali di provenienza italica, due dei quali sicuramente rinvenuti a Bologna e Spina. Ancora un saggio di carattere filologico presentano B.F. Cook (pp. 99 ss.), in relazione alle lekythoi del P. della Phiale, e M.B. Moore (pp. 233 ss.), su un fr. di lekythos del Washing P.; mentre all'iconografia dello 'Jungfernkranich' dedica interessanti osservazioni E. Böhr (pp. 37 ss.), con occhio attento ai contesti narrativi e alle forme vascolari - gli uni e le altre eminentemente al femminile - di pertinenza: sulla scia delle sue osservazioni, sarebbe interessante indagare più da vicino il possibile significato della associazione, su un oggetto ancora una volta legato al mondo della donna, come lo specchio (e.g. l'ex. prenestino di Villa Giulia inv. 15702: R. Adam, *Recherches sur les miroirs prénestins*, Paris 1980, 43, cat. n. 28), di una 'gru' e di un guerriero: la 'gru' come ricordo della mitica geranomachia, o come allusione a mondi lontani ed esotici (cfr. J. Thimme/O. Keller), o ancora come incarnazione di virtù 'militari'? Il brevissimo contributo di M. Robertson (p. 283) mette a fuoco un 'dilemma esegetico' di grande interesse, la rappresentazione di una creatura femminile alata con specchio e 'wool basket', sorta di Victoria domestica, per usare la seducente definizione del grande studioso, di contaminazione, cioè, tra due sfere in apparenza inconciliabili. Il ricco contributo di E.B. Harrison (pp. 137 ss.), attraverso una disamina incrociata di evidenze di tipo diverso, giunge a riconoscere il tema del vecchio Pelia e delle Peliadi in un frammento di rilievo dall'Eretteo e a toccare una problematica mai abbastanza sondata, quella della destinazione dei 'rilievi a tre figure', qui tentativamente riferiti, con le loro complesse implicazioni cultuali, al santuario di Herakles a Melite. Un cratere attico di pieno IV sec. a.C. viene presentato da H. Metzger (pp. 213 ss.), il massimo esperto in materia, che analizza la composizione eleusina del lato principale e il suo accostamento ad immagini dai contenuti dionisiaci sul lato opposto, secondo meccanismi che non paiono, a parere di chi scrive, del tutto casuali, stando almeno alla complessa ed eterogenea documentazione tardo-classica di culti misterico-orfico-salvifici che attraversa il mondo

greco, magno-greco ed etrusco (da ultimo cfr., e.g., per la etrusca Tomba dei Demoni Azzurri, due studi in corso di stampa di G. Adinolfi/R. Carmagnola/M. Cataldi negli Atti del XXIII Convegno di Studi Etruschi e Italici e del Seminario *Pittura parietale, pittura vascolare* tenutosi nel 2003 presso la II Università di Napoli; ma si veda per l'ambito greco lo studio dello stesso Metzger, in *RA* 1995, ricordato dall'A.).

La sezione della ceramica non può dirsi conclusa qui. Alcuni contributi, infatti, affrontano problematiche relative a produzioni vascolari diverse da quelle attiche a figure nere e rosse: W.R. Biers (pp. 33 ss.) si sofferma su vasi plastici greco-orientali, soggetto da lui più volte affrontato negli ultimi decenni; M. Iozzo (pp. 147 ss.) e M. Denoyelle (pp. 107 ss.) illustrano caratteri stilistici e iconografici di 'nuove' acquisizioni calcidesi e italiote, da sempre oggetto di loro studi e ricerche; K. Schauenburg (pp. 285 ss.) vasi italioti in collezione napoletana (per la rappresentazione della lekythos apula tav. 74a-b si potrebbe forse ricordare anche un guttus del Louvre: *CVA* Louvre 15 (1968), 42 e tav. 18,10 (M.O. Jentel). Un ponte tra studio di 'Realia' e antiquaria costituiscono i contributi di H. Giroux (pp. 127 ss.), sugli acquisti attici 'Canino' al Louvre; di C. Lyons (pp. 195 ss.), sulle antichità classiche del Duca di Noia (lavoro che fa seguito ad altre importanti ricerche della stessa A. sul tema del collezionismo settecentesco meridionale, prima fra tutte quella sul 'Museo Mastrilli' del 1992); di D. Buitron e A. Oliver (pp. 49 ss.), sul recupero di alcuni pregevoli materiali da corredo tombale rinvenuti a Kourion dal Vicomte de Castillon Saint-Victor; di H.A. Cahn (pp. 59 ss.), su una lettera di Beazley a Langlotz attinente a vasi attici e calcidesi.

Cinque sono gli A. che affrontano problemi legati all'ambito della toreutica da ottiche diverse, tanto storico-artistico/iconografiche che metrologiche e storiche, anche in questo caso richiamando filoni di ricerche già battuti dallo stesso von Bothmer: S. Descamps-Lequime, sul rapporto complesso e 'multifocale' tra Kleinkunst bronzea di Sparta, Corinto e Magna Grecia in età alto-arcaica (pp. 113 ss.); P. Amandry, sulla ben nota classe di hydriai argive di epoca protoclassica e classica (pp. 29 ss.); M. Vickers, su tre casi di metrologia 'pre-romana' e 'romana' nell'ambito geografico del Mediterraneo orientale e del Vicino Oriente (pp. 333 ss.); M. Pfrommer, con un interessante tentativo di lettura iconologica di oreficerie dell'epoca di Alessandro Magno in rapporto a una possibile utenza scitica (pp. 267 ss.); E. Simon, sulla parziale rilettura dei due skyphoi di argento di Hoby (pp. 297 ss.).

Un piccolo nucleo di contributi è incentrato su tematiche relative alla plastica, di epoca geometrica (I. Jenkins, pp. 153 ss., sulla più antica rappresentazione del suicidio di Aiace); classica (K.A. Schwab, pp. 293 ss., sulle valenze del Palladio in contesto partenonico); romana (E. Milleker, pp. 217 ss., su una testa di probabile fattura 'arcaistica'); del Gandhara (E.R. Knauer, pp. 157 ss.).

'Eccentrici' rispetto alle linee di ricerca dominanti appaiono, infine, gli interventi di F. Causey, su un pendente d'ambra a forma di nave (pp. 63 ss.), per il quale si potrebbero forse istituire utili confronti stilistici anche con ambiti diversi da quello della plastica etrusca evocato dall'A. (p. 64, nota 6); di R. Cohon, con una lettura psicoanalitica della leggenda di Romolo e Remo (pp. 91 ss.); di C. White, sul *Pan and Syrinx* di Rubens nella collezione reale inglese (pp. 339 s.); di C.C. Vermeule, sulle *Wandering stones* tra acquisti museali e scavi di frodo (pp. 323 ss.).

Come si vede, un complesso quanto mai variegato di studi, sicuro punto di 'richiamo' per molteplici settori della ricerca archeologica.

Fernando Gilotta

INGE NIELSEN (ed.) *The Royal Palace Institution in the First Millennium BC. Regional Development and Cultural Interchange between East and West.* Aarhus: Aarhus University Press, 2001. 317 pp., ill.; 28 cm (Monographs of the Danish Institute at Athens. Volume 4). – ISBN 87-7934-004-0.

This welcome volume is the result of a conference held at the Danish Institute at Athens in 1999. Inge Nielsen, the organiser, managed to bridge the traditional boundaries of the several sub-disciplines in the fields of Mediterranean and Near Eastern archaeology and history by inviting scholars who not only covered both literary and archaeological sources but also focused on a wide range of regions in the eastern Mediterranean.

The main focus of the conference and the book is to compare and interpret the way in which royalty from various regions in the first millennium BCE communicated their power and position through the articulation of their physical domain: the palace. In a certain way this volume falls into the domain of the study of domestic space. Palaces indeed housed royal households, albeit households that were organised differently and had different roles in society from the majority living outside of the palace. The combination of different approaches provide valuable insight in the relationship between the Palace as a socio-political institution and the physical space in which the power of this institution was negotiated, presented and perceived, within and toward the outside world.

The organisation of the volume is clear and the articles are largely presented in a chronological order. The first paper, by David Braund, deals with an important and interesting conceptual issue: the way in which a number of ancient Greek authors construct a conflicting image of monarchy. The literary sources Braund uses are from very different dates, but they all seem to point to the palace as a potentially totalitarian institution, dangerous for the community at large. However, many sources then indicate that this can be reversed by the individual ability of a king to reign well. This dichotomy is reflected in the religious sphere where Dionysus appears to act as a watchdog and the protector of the community against those rulers who abuse their power, and at the same time as a supporter of 'good kings'.

The articles that follow (Lumsden on Neo Assyria, Petit on Amathus, Kuhrt on Babylonia) all focus on the roles of palaces in early periods. Lumsden presents the role of the palace as a uniting force in a multicultural society. Petit researches the relationships between the occurrence of the first palaces in Cyprus and processes of early state formation while Kuhrt provides the reader with an overview of the evidence available for Babylo-

nian palace culture and the way its heritage was fostered during the subsequent Achaemenid and Seleucid periods.

The section on Achaemenid palaces presents a number of varying approaches to archaeological evidence available from both centre and periphery. Stronach's article stresses the necessity to look at individual traits and tastes of rulers in the development of Achaemenid art and architecture. New archaeological research methods are advocated by Boucharlat in his paper in which he presses for a more comprehensive study of the Achaemenid palaces in their urban contexts. Studies on palaces in the periphery present some interesting contrasts. Knauss, researching the area of Transcaucasia, identifies cases of acculturation in which the local vassal kings readily adopted Achaemenid architectural models. Kanetsyan identifies an eclectic architectural style consisting of a strong influence of Urartian planning and building tradition in Armenian architecture during Persian rule, while Ter-Martirossov sees a strong Achaemenid influence in the development of a new spatial design in Armenia linked to the introduction of some form of imperial cult.

The section on the Hellenistic palaces starts with Nielsen's own article that focuses on an interesting and often neglected element in architectural studies: the garden. Although she has little archaeological evidence to go on, Nielsen can nonetheless stress the importance of the garden as a mediating space between the palace and its environment and identifies a series of garden traditions that persisted over time. The papers by Hatzopoulos and Saatsoglou-Paliadeli provide new ideas and evidence with regard to the architecture of the palaces at Pella and Aegae respectively with specific reference to the relationship between the palace and the city. Graeme Clarke presents a very detailed account of his excavation of the acropolis building at Jebel Khalid, yielding a wealth of new information with regard to activity areas within this complex and the relationship between Macedonian and local elements in the articulation of the architectural space.

The last section deals with a number of areas, formerly under Achaemenid rule, that became independent during the Hellenistic period. Licheli, Gagoschidze, Babayev and Invernizzi discuss results from new studies in relation to post Achaemenid palatial structures in Caucasian Iberia, Caucasian Albania and Parthia respectively, shedding new light on the complex processes of acculturation through time in relation to both palatial architecture and monarchy.

The strengths of this volume lie in the largely archaeological approaches toward palatial structures over a wide area and long span of time that serve as an incentive for historical comparison. For no ruler communicates his or her power in identical fashion, but the underlying processes provide us new insight in common mechanisms and local diversities.

This book is well produced and highly recommended for historians and archaeologists alike with an interest in palace culture and the perception and self representation of rulers in the first millennium BC.

Margriet J. Haagsma

GÜNTHER SCHÖRNER, *Votive im römischen Griechenland. Untersuchungen zur späthellenistischen und kaiserzeitlichen Kunst- und Religionsgeschichte*. Stuttgart: Franz Steiner Verlag, 2003. 638 pp., 100 pls., 24.5 cm (Altertumswissenschaftliches Kolloquium 7). – ISBN 3-515-7688-3.

Over the last years there is a remarkable increase in the study of Greece in Roman times, culminating in Susan Alcock's publication *Pausanias. Travel and Memory in Roman Greece* (2001, reviewed in *BABesch* 79, 2004). Instead of regarding the province of Achaia as a quiet backwater and an open-air museum for wealthy Roman tourists, it is interesting to realize that cultural changes did take place, which have left their traces in literature and archaeology. With the publication of Schörner's *Votive im römischen Griechenland* another chapter can be added to the history of Roman Greece, dealing with the religious changes in imperial times which are apparent in the use of votive offerings to gods and heroes.

In his study the author has analyzed 1240 votive inscriptions and 100 votive reliefs, dating from the late-hellenistic and Roman periods. The results of his investigation make it clear which gods and heroes were popular, and what kind of persons dedicated offerings to them. By confronting these results with the votive offerings of classical Greece it becomes apparent that religious feelings underwent major transformations and that the attitude towards the gods and heroes changed remarkably.

A very clear change of attitude is the general sense of self-deprecation with which the dedicants describe themselves. Words such as 'servant' or even 'slave' are used to describe the relation towards the almighty deities. Very often the poor mortals are ordered to dedicate offerings to the gods and hasten to comply with the divine wishes. Dedicants call themselves humble supplicants, wrongdoers and even 'criminals' and ask forgiveness for their lack of respect. The old principle of *do ut des* from archaic and classical times seems forgotten and very often the dedicants are not even represented on the sculptural reliefs, or at best play a marginal role. The material offered by the author provides ample opportunity for further investigations into the reasons why this change in attitude came into being.

Now all the available material is brought together, it is possible to quantify the dedications and draw up a list of the most popular and venerated deities. On the sculptural reliefs the places of honour are reserved for the Dioscures, Heracles and the Eleusinian deities. They are followed by Asclepius, the Nymphs and Pan. Only from place 7 downwards we encounter the old Olympians like Zeus, Apollo and Artemis. The last places on the list are reserved for Oriental deities such as Agathos Theos, Helios and Selene. Unfortunately there is no discussion about the possible reasons for the rise and fall in popularity of the different deities.

After the sculptural reliefs the author discusses other votive offerings, such as altars, utensils, statues, portraits and the most expensive ones: buildings or parts of buildings. In the latter categories it becomes evident that the religious element is heavily mixed with the honour the dedicant creates for him- or herself. A very

interesting chapter is dedicated to the question who the dedicants were, and what kind of profession they exercised. A remarkable number of dedicants are women and their offerings are given to the usual protectors of children, like Artemis, Eileithyia and Demeter. In the quantified list of dedicants we further encounter priests, sportsmen, politicians, doctors, generals and emperors. Private and public institutions also honoured the gods and by doing so made their existence known to everyone. The descriptive chapters of the book close with a good analysis of the changed attitude towards the gods ('Zum Götter- und Menschenbild im römischen Griechenland'), the remarkable presence of archaistic elements in both inscriptions and style of the reliefs and a discussion about the practice of votive offerings in this period ('Zum Votivwesen im römischen Griechenland'). The author has made a herculean effort in compiling two catalogues: one with 1240 votive offerings with inscriptions, and one with 100 votive reliefs. Each catalogue entry is provided with the data of the object and earlier literature. A concordance of the inscriptions, various indexes and 100 plates of good quality testify to the great amount of work and care the author has given to this mighty corpus of votive offerings in Roman Greece.

Ruurd Halbertsma

GENEVIEVE HOFFMANN (ed.) *Les Pierres de l'Offrande autour de l'Oeuvre de Christoph W. Clairmont* 1. Kilchberg/Zürich: Akanthus Verlag für Archäologie, 2001. 208 pp., figs.; 24.5 cm. – ISBN 3-905083-15-9.

ANNIE SARTRE-FAURIAT (ed.) *Les Pierres de l'Offrande autour de l'Oeuvre de Christoph W. Clairmont* 2. Kilchberg/Zürich: Akanthus Verlag für Archäologie, 2003. 240 pp., figs.; 24.5 cm. – ISBN 3-905083-19-1.

The title of these two volumes: *Les pierres de l'offrande autour de l'Oeuvre de Christoph W. Clairmont* (i.e., 'sacrificial stones around the work of C.W. Clairmont') is introduced by a quotation in passionate words from Saint-John Perse (p. 3), but this quotation may well remain obscure to most readers.

The two volumes contain the lectures of a symposion held in Dec. 1998 in Clermont-Ferrand, in honour of Prof. Clairmont.

Prof. Clairmont (1924-2004) must have been an unusual person and scholar: this appears from a moving and poignant biographical note by Lezzi Hafter, printed on a separate sheet of paper inserted in the book. He was the last member of a famous British family, well-known because of Claire Clairmont, the mother of Byron's daughter Allegra who died at the age of five in a cold Italian cloister, simply because Byron did not want to see how intolerably harsh the regime of those nuns was.

At first, Clairmont's interests were in the Near East and Egypt; later he turned to Greece and soon concentrated on grave reliefs. Lezzi Hafter tells us that, during the production of his great work *CAT* (*Classical Attic Tombstones*, 1993 and 1995), C. worked in great isolation, hardly communicating with younger scholars who might have contributed useful things. C. had to face severe criticisms.

The account of his last years is most unexpected: he was converted to the Islam, read the Koran in Arabic, adopted the name of Abdel Mumin and lived as a Berber among the Berbers high up in the Atlas mountains.

The first part of *Volume I* is *Greek Archaeology*. It opens with a summary of C.'s work by G. Hoffmann who compares the importance of C.'s work to that of Beazley's (but this surely is a gross underestimation of Beazley's absolutely fundamental contribution to our understanding of Greek pottery and the Greeks in general).

A most interesting chapter is Clairmont's own *Historiographic balance*: a lecture on the history of the study of grave stelai (pp. 15 ff). He is a great admirer of Johansen's *Grave Reliefs* (1951) but turns rather sharply against Himmelmann's *Ilissos Relief* (1956). According to Himmelmann the deceased are, in a certain sense, to be regarded as heroes. This, C. says, is a dangerous speculation, adding that the German defeat in WW II may have given rise to this 'personal interest in the status of the dead'!

On the other hand, C. speaks highly of Schmaltz's work (*Lekythoi*, 1970, *Grabreliefs*, 1983). When discussing Bergemann's *Demos und Thanatos* (1997), he praises most of his conclusions, but casts doubt on the influence the polis, she believes, had on private tombs and their *periboloi*: C. believes that Attic families had more or less a free hand in shaping their grave monuments. This first entry, by the *éminence grise*, is interesting and instructive.

Of the other chapters no more than a simple indication of their contents can be given.

On pp. 20 ff J. Bergemann presents a data-base for Attic grave reliefs (3000 stelai with 4000 b/w. photos). With this material all kinds of questions may be solved, e.g., the significance of seated figures (men and women) in scenes with more persons. The material needed for such problems can be found in a few seconds.

On pp. 26 ff B. Holtzmann discusses a number of atticizing funerary reliefs from Thasos (one of them is a scene of a woman in childbirth).

On pp. 36 ff there is a paper about stelai from Paros by D. Berranger-Auserve. They belong to the 5th century, a period when no comparable stelai were made in Attica. The most famous 'Parian' specimen is the sweet girl holding two doves in her hands in New York, which once was in the Brooklyn House (a relief that, for its sentimental sweetness, strange proportions and other unusual details, I have always, probably erroneously, suspected).

From p. 44 onwards Bernhard Schmaltz discusses the re-use of funeral reliefs. This recutting is restricted to the more costly naiskos-stelai. An interesting case is the Korallion stele, figs. 1-3. Both the girl servant and the old man in the background (between Korallion and her husband Agathon) were added when Agathon died: for this addition the background had to be hol-

lowed out, as is clearly visible in the photographs. Korallion and her husband are depicted in *dexiosis* but, when Agathon died, the inscription was re-written and the relief enriched with the two figures. At the same time the dexiosis lost its original meaning.

In the relief of Paramonè (p. 47) a woman with a baby was later transformed into a man, called Aristion. In the Euphiletos stele in Halai (p. 48), a fine young woman was made into an older lady by means of deep wrinkles; the two names, inscribed very superficially in the second phase, show that now the two men became the main persons. Other interesting examples are illustrated in figs. 5-6. Sometimes, Schmaltz says (p. 50), inscriptions may have been covered with marble stucco on which new inscriptions were painted. Possibly changes were also made when a stele was bought from store, according to the wishes of the client (p. 51), but this is not very likely since stelae were expensive and therefore probably not sold ready made. We know that lekythoi were prepared beforehand and that their scenes were carved only when they were bought. Schmaltz says that stelae were probably reworked much more often than we usually assume.

On pp. 52 ff R. Posamentir publishes reconstructions of painted stelae, making use of *Verwitterungsreliefs*, for example the stele of Glykera, figs. 1-4, Ploutarchè, figs. 5-6, and others.

The second part of volume I is called '*Iconography and Society*'.

On pp. 66 ff Nancy Demand criticizes G. Metraux, who believes that the progress in Greek art towards naturalism (this term should be preferred to 'realism') is due to the teachings of the great physicians. It is, of course, the other way round: the sculptors' understanding of the (outer appearance and therefore) the visual anatomy of the human body clearly precedes that of the physicians.

On pp. 72 ff V. Dasen speaks of twins on funerary monuments starting with the seated matron feeding two babes from Megara Hyblaea (fig. 1) and then carrying on via Dermys and Kittylos (fig. 7) to a Roman stele with two twins in Warsaw (fig. 10): there is more information on twins in Rome than in Greece.

On pp. 90ff M. Th. le Dinahet discusses children on Hellenistic stelai from Delos, in particular male and female babies, a study with useful appendices.

On pp. 107 ff. K. Stears deals with the iconography and status of women who are working wool, spinning and weaving. Curiously, spinning is rare on Attic stelai and mainly used for slaves an freed women.

On pp. 115 ff J.B. Grossman writes about stelae with a standing woman and a man shaking hands analyzing their family relations (two grave reliefs of the Athenian agora are her starting point).

M. Daumas discusses the fascinating Boeotian stelae with incised drawings of warriors (pp. 125 ff), such as those of Mnason, Rhynchon (fig. 1), Saugenes (fig. 2) and others (omitting the stele of Athanias in Malibu as highly suspect). Because of the long mantles some of these figures wear and because of other ornaments, it is suggested that the warriors Buillos, Pherenicos and others are to be regarded as initiates or mystoi of the Cabeiroi; this is confirmed by the scenes in the pediments above Rhynchon and Saugenes.

On pp. 136 ff a new stele in the museum Calvet is published by O. Cavalier. It shows a huntsman shaking hands with a seated woman. Cavalier analyses the iconography of related scenes with huntsmen and dogs.

The following chapter deals with '*Religion and Law*'. S. Georgoudi discusses a religious law in Selinous in connection with the cult of ancestors and the *Tritopatores* (pp. 152 ff) .

On pp. 164 ff S. Vilatte speaks of Plato's dialogues, as if, in a sense, they are an imaginary funerary stele for Socrates.

A. Helmis discusses rituals enacted on tombs that are described in ancient texts and are sometimes connected with a special law, for example, the one against funerary luxury (pp. 175 ff).

In the chapter on '*Museography*' M. Moltesen (pp. 184 ff) draws our attention to a number of peculiar but interesting reliefs that are quite clearly fakes but have not always been regarded as such (two in Copenhague).

Finally, there is a report by A. Verbanck-Perard on the way the stelae are arranged and exhibited in Mariemont (pp. 194 ff).

In short, this first volume contains a varied and rich collection of studies.

Volume II deals, among other things, with inscribed funerary stelae in the Roman Empire, both in the Greek East and the Latin West. Emily-Ann Hemelrijk discusses some of these papers.

One of them is by A. Sartre-Fauriat (pp. 36-50), who surveys funerary stelai from the region of Hauran in southern Syria where, since the 1970's, numerous inscriptions have been found. Most of them are rough basalt blocks with a brief inscription only, but some bear a crude 'portrait' of the deceased. S-F discusses their distribution and the information they provide. There is a difference in epigraphic habit between the North and the South (and the plains and the hills) of Syria: the South yields much more evidence. 1650 inscriptions are in Greek but a considerable number (170) are in Nabatean. The latter usually provide only the name and filiation, but the Greek inscriptions sometimes add the age at death and a few words of grief or the like. Many names show the Semitic origin of the deceased, quite a few bear marks of Hellenisation or Romanisation. As in other parts of the Roman Empire, twice as many stelae were erected for men as for women, which makes the material useless for demographic studies.

Further, C. Vendries deals with a funerary stele from Thrace erected for M. Cincius Nigrinus, a soldier of the XIth urban cohort in Rome in the Trajanic period (pp. 51-60). Cincius is standing in military dress. Below his feet there are a number of objects in low relief: among others things, a helmet, a cuirass, greaves and, surprisingly, a lyre with a plectrum. It is hard to explain the lyre: Roman military musicians are always portrayed with wind instruments and, therefore, the lyre can hardly mean that he was a musician in the urban cohorts. Further, it is unlikely that the lyre is a symbol of the heroïzation of the deceased, as, in funerary art, it may be for women. But soldiers sometimes per-

formed as actors during ludi of the imperial cult. Therefore, the lyre, together with what may be an opened book-roll, suggests, according to Vendries, that Cincius Nigrinus acted on the stage during his military career.

The next chapter is called '*Stelae in the Western Part of the Roman Empire*'. It opens with an article by J. Guerrier-Delclos (pp. 60-72) about monuments in the museum of Sens that throw light on the activities of veterans of the Roman army in the region. She starts with a portrait stele of the late second or early 3rd century AD with the relief of a man in the long Gallo-Roman tunic typical of a civilian, but with a military pallium and a sword. On each side of the stele there is a smaller figure: the one clearly is an agricultural labourer, the other a bailiff. No inscription is preserved, but because of this unusual combination of military and civilian elements, Mrs Guerrier assumes that the deceased was a soldier who, after his retirement, became a local landowner. In support of this she discusses four funerary cippi with inscriptions of veterans and three 'portrait' stelae without inscription, all found in Sens and dating from the 2nd or early 3rd century. The reliefs show couples in *dextrarum iunctio*, the man in military dress with a sword, the wife wearing local dress. The combination of military apparel and signs of civilian life (lawful marriage) shows them to be veterans who, after their retirement from the army, resided in the city, probably drawing their income from landownership. From the number of funerary monuments set up for this group she concludes that they formed almost ten percent of the population; however, to my mind, one cannot draw such conclusions from the number of funerary monuments preserved since, because of their relatively wealth and Roman, or Romanized, habits, veterans are probably over-represented in Latin inscriptions and funerary portraits in such towns.

The second article of this chapter, by L. Lamoine (pp. 73-90), deals with the *ornamenta* (rank-distinctions) on the monuments of municipal magistrates, especially the *fasces* and the *sella curulis*. On the basis of the inscriptions and reliefs of four funerary monuments in Gallia Narbonensis, he discusses the signs of their public dignity, and tries to connect the image of the deceased with the inscription. At times this leads to over-interpretation, for instance when he interprets the portrait of the military tribune Sextus Adgennius Macrinus (fig. 3) in the light of ancient physiognomic theories of the 'courageous man', or when he suggests that the axe depicted on the funerary altar of a local aedilis indicates the power of capital jurisdiction (pp. 82-84; but axes are common on funerary monuments in southern Gaul). However, his descriptions are detailed and he interestingly observes that the higher the social status of the deceased, the less prominent were the signs of his local honour.

The other papers of Volume II deal with stelae in modern times, from the 18th century onwards.

J. M. Hemelrijk and Emily-Ann Hemelrijk

CONRAD M. STIBBE, *Lakonische Vasenmaler des sechsten Jahrhunderts v. Chr*. Supplement. Mainz am Rhein: Verlag Philipp von Zabern, 2004. XV, 265 pp., 1 col.-+60 b/w figs., 96 pls.; 29,5 cm. – ISBN 3-8053-3279-3.

Coen Stibbe is, probably, the greatest Laconian expert of our generation. He is one of, what might be called, a triumvirate of Dutch vase experts, the other members being Herman Brijder (Siana cups) and Kees Neeft (Corinthian). They have in common a life-long dedication to a great theme and a remarkable scholarly output. They travel all over the world collecting material, helping colleagues, making photographs and drawings and publishing the results. They belong to the Amsterdam 'school' of students of Greek vases inspired long ago by C.H. Emilie Haspels, who was professor from 1946 to 1966. Half a dozen other archaeologists also belong to this same school.

Stibbe has written a number of books about the history of Sparta, a shelf full of books and papers on Laconian pottery and an impressive series of volumes and articles about bronze vases (mainly Laconian). When this review appears, he will be eighty years of age but he is still very active indeed.

The book under review (here abbreviated *Suppl*.) is a thick supplement to his *Lakonische Vasen des sechsten Jahrhunderts v. Chr*. (1972, here abbr. *LV*). It closely follows the organization of *LV*. One of the most instructive aspects of the two books is the collection of fine drawings of the section-profiles of the cups (the section on the left and the profile with the ornaments on the right, all 1 : 2; in *LV* the left part, the section, is in outline, in *Suppl*. it is black). These drawings are so near reality that it feels as if one holds these delicate cups in the hand. There are 57 'profiles' in *LV*, neatly collected in the first part (pp. 18-44, but without catalogue numbers!). In *Suppl*. they are scattered throughout the text since they are printed in the paragraphs of each separate painter (one has to leaf through the book to find them but here they are: pp. 18, 20, 36, 50, 62, 68, 99, 108, 141, 143, 155, 161, 163, 166, 168, 180, 185-189, 193-195; besides, there are drawings of chalices by the Miniature Painter, pp. 131ff). As I have said, the drawings look very 'real', but to my surprise the photos do not always seem quite the same: compare fig. 39 (p. 195) with pl. 87, where the stem seems less sturdy.

Also, there are countless drawings of ornaments. In this respect, the arrangement in *LV* is better, because the catalogue numbers of the vases on which the ornaments are found, are printed in the drawings (e.g., *LV* p. 180), whereas in *Suppl*. we have to discover them ourselves and note them in the illustrations (e.g., p. 115, palmette no 1 = nos 7, 13, 24 etc.). Other drawings render details of figures such as birds' heads (e.g. p. 113) and even some complete scenes (by the Miniature Painter; figs. 16-22, pp. 131ff). The 96 glossy plates contain a great number of excellent photographs; particularly splendid are the numerous shape-photos, e.g., pls. 4-6, 9, 12-3 etc. Sometimes, the reader will regret that certain photos are lacking: e.g., the inside of nos 235, 238, 338, 357.

The pages that will most frequently be consulted, in both books, are, no doubt, their catalogues. The catalogue in *LV* pp. 269ff contains more than 360 entries, distributed over five master-painters (with their 'schools', followers, comparanda etc.) and numerous minor artsists (pp. 288ff, cat. nos 332-360). The catalogue of *Suppl*. (pp. 201ff) contains 400 entries: 66 attributed to the Naucratis Painter, 47 to the Boreads Painter, 9 to the Arkesilas Painter, 59 to the Hunt Painter, 52 to the Rider Painter; then follow the minor artisans (pp. 230-251): the Painter of the Fishes from Taranto has 29 entries, the Typhon Painter 5, the Chimaera Painter 20, and the Hoplite Painter 25 attributions; he is the first of four new painters and was introduced by G.P. Schaus apropos of fragments from the Demeter sanctuary in Cyrene (see pp. 103ff). There are 51 entries for the Allard Pierson Painter; 3 for the Cyrene Painter; and 22 for the second new artist, the Miniature Painter and his Circle (recognized by Stibbe apropos of newly published sherds from the Artemision of Samos; pp. 124ff.). The third new painter, the Olympia Painter with his circle, the *Reformwerkstatt*, has 4 entries (recognized by Erika Kunze-Götte, see pp. 146-148) and, finally, the fourth new one, the Dioskouroi Painter has fragments of 7 vases (identified by Stibbe).

In *Suppl*. two series of catalogue-numbers are used: one in the text for the vases of each painter, and one for the general catalogue at the end of the book, indicating the same vases; cross-references between the two are sometimes painfully lacking. For example, the Boreads Painter's no 30, mentioned on p. 41, has to be sought under no 96 of the catalogue on pp. 201ff; and no 47 on p. 43 is no 113 on pl. 18 etc. As for the indexes, there is a general one and a list of Museums, but there is no concordance with the catalogue numbers of *LV*; this makes it difficult to know which numbers of the *LV* catalogue have changed place (e.g., because of a revision of its attribution). The reader has to note such alterations in the margins of *LV*, both on the plates and in the catalogue. I give some examples.

LV nos 200-202, described as 'probably Arkesilaos P.' and 360 (which occurs in '*Nachträge* Kyrene Maler') have now become *Suppl*. nos 21, 22 and 25 (not 26, p. 9) of the Naucratis Painter (*LV* nos 202 and 360 belonging together). Some vases ascribed to the *Werkstatt* of the Naucratis Painter in *LV* are now attributed to the painter himself: *LV* 77, 84, 88 have in *Suppl*. become the painter's own work as nos 10, 51 and 5 respectively, whereas *LV* no 101 is transferred to *Suppl*. no 277 (Chimaera Painter no 10); *LV* no 312, pl. 110 (Rider Painter) is now Suppl. no 338 (Allard Pierson Painter); see further Nachträge pp. 39, 40, 42, 51-2, 59, 61, 63 etc. It would have been good to have a systematic list of these alterations and additions.

Sometimes difficulties crop up while reading the text: the fragments from Olympia (now published by Erika Kunze-Götte in *Ol.Forsch.* 28) are not in the catalogue of *Suppl*., since most of them were incorporated in *LV*. Further, the omission of a reference to pl. 33 in the paragraph *Nachtrag Jagd Maler Bb* on p. 39 will probably puzzle readers. Besides, it is not immediately clear where the *Nachtrag Bb* mentioned under pl. 33, is to be sought in the text, but I was lucky enough to chance upon a casual reference to plate 33 (on p. 168). Thus, I learned that this intriguing fragment fits *LV* 214, pl. 71.1. The left half of this cup is described in *LV* pp. 135-136 and its shape on p. 36, fig. 40. Only a very careful study of *Suppl*. can prevent such meandering reading.

The book has to be studied meticulously and during a long period. It is a very thorough and fundamental piece of work. All painters are discussed at length, their work being divided into groups Aa, Ab, Ba, Bb etc. and many new items are described and published in detail on pp. 151-199. The enormous expansion of the material is manifest throughout and can, of course, not be reviewed here. For example, there are no less than 45 new pieces attributed to the Boreads Painter or his manner and his work now amounts to some 110 pieces (his cups are spread over a wide area but not one fragment has so far been found in Laconia!).

As Boardman says (*Early Greek Vase Painting* p. 187): 'stylistic identities are slightly more difficult to grasp than in Attic.' This is an understatement. The most important question is, of course, whether we are to regard (most of) Stibbe's attributions as (nearly) certain. This is a question that can only be answered by the few experts in this field (no more, I believe, than half a dozen scholars). The present reviewer is no such expert, yet some suggestions must here be made. On the whole, it seems that Stibbe's picture of the main painters is generally accepted; however, for certain minor artists, e.g., the Allard Pierson Painter, some objections may perhaps be made.

Central to this problem is, to my mind, whether the potters and painters were the same persons. Are we to assume that the throwing and trimming of the cups, the preparation of the surface for the painting (covering certain parts with white slip), the drawing of the frieze lines and the floral ornaments on the outside, the preparation of the tondo on the inside and, finally, the figures in the tondo, were all done by one hand? This is the general assumption in *LV* p. 13, 'wenn es auch Ausnahmen gegeben hat'. Stibbe's explanation is that at the start of a painter's career his shapes are experimental and that later on they achieve a more consistent character, a form that, as Stibbe puts it, 'in most cases is clearly distinct from that of other painters': the shape gets an 'individual stamp'. I take it that this is still Stibbe's opinion in *Suppl*.

In this, perhaps somewhat unexpected, theory he is strongly supported by Brijder, who tells me that, originally, he was inclined to doubt the identity of the potters and painters of his Siana cups, but in the course of his studies was forced to accept it, in view of the close similarity in the development of shape and painting. We shall return to this below.

As for the Allard Pierson Painter (here abbreviated as APP), this artisan was introduced in *LV* (pp. 188-189) with only four cups (and two 'probably by him'), and, therefore, understandably, ignored by some scholars (*Suppl*. n. 429). His work has now been expanded to thirty three items (pp. 240ff), and to fifty, if we include his 'manner'. Nine of these figure already in *LV* (two listed under the Rider Painter and one sub the manner of the Hunt Painter: *Suppl*. nos 338, 352, 354; = *LV* nos 312, 264, 315). Many of the new items are extensively published in the section Veröffentlichungen, pp. 184-199.

The description and analysis of the vases by the APP

(pp. 110-123, 184-199) is very detailed and should, one might expect, allow us to form a definite judgement - were it not that the present reviewer and most other readers have insufficient knowledge of his entire oeuvre and, in order to get such knowledge, not even Stibbe's two books, though richly illustrated, suffice, nor do his other three books (abbreviated as *LBP* 1-3).

The APP is one of the more important of the 'minor' painters and is described by Stibbe as a potter-painter, whose style of potting is also personal enough to be identified: the same is said of the secondary decoration of his cups (see below).

His work is divided into two main groups (pp. 111ff): *A*, when he follows the Hunt Painter; *B*, when he imitates the Rider Painter. This change is curious and Stibbe suggests that he may never have had his own workshop, he may have moved from the one to the other, for both style and themes indicate such a change. This switch took place at the time of the fragment no 32 = Cat. no 345, pl. 92, which is probably a picture of Sisyphus rolling his rock, a subject of the Hunt Painter but, Stibbe says, 'drawn in the style of the Rider Painter' (p. 122). The APP imitates the two painters with 'pedantic precision' so that his own artistic personality 'sich schwer erkennen lässt' (p. 119).

On pp. 112f. it is said that his style degenerates: 'von einer stilistischen Hochblüte zu einer gänzlichen Degeneration...', and he contributed 'als Töpfer keinen selbständigen Beitrag zur Entwicklung'. The forms are 'sehr uneinheitlich': he has an eclectic taste. That he is 'late' appears, e.g., in his handle palmettes without incision (p. 115 nos 1-5). The painter is dated 550-520 (p. 113).

The new additions come mainly from the region of Taranto and not a single sherd from his hand was ever found in Laconia. Therefore Stibbe suggests that the APP may have lived some time in Taranto (whether the particular clay is available there, is unknown to the author, n. 434). Comparable suggestions are found in *LV* pp. 11-12 for the Boreads- and the Rider painters! The reader will, of course, object that, however this may be, the APP must also have lived near the shops of his two teachers (the Hunt and Rider Painters), wherever those may have been.

What will be the impression of all this on the readers? The present reviewer feels uncertain about the artistic unity of all the works here attributed to the APP.

Let us start at random. It is clear that four cups, found in a grave in Taranto (p. 112), nos 321, 324, 325, 334 (pls. 75-77, 83), belong together; 325 and 334 are very like the extraordinary cup in Malibu, no 314, pl. 71. This, however, concerns only the outside of the cups. What about the figure painting? There are certain peculiar stylisations that connect nos 22/334 (pl. 83.1) and 23/335 (pl. 84.1) with 18/330 (pl. 81), such as the knees and the lines in the calves, but it is hard to believe that here we have to do with the same painter. After all, similar stylisations of details need not be decisive. In Laconian pottery certain unusual markings of this kind are common; e.g., the double or triple vertical lines in the deltoid (shoulder) such as pls. 84.1, 81.1, 82.1: see Naucratis Painter pl. 10.3; Arkesilaos Painter pl.21, Hunt Painter pl. 32.1 and 37.1. Apparently these details are not distinctive but belong to the general Laconian tradition (in sculpture these vertical grooves in the deltoid occur on Parian statues). The human figures on the 'later' cups just mentioned are quite sloppy (e.g., the komasts of pls. 84-6, 88-9) and in strong contrast with the excellent drawing of nos 314, 330, 331, 332 (pls. 71, 81, 82.1 and 3; *LV* pl. 127). The different shapes of the eyes attributed to the APP, as shown on p. 113, seem to be too varied to be from one and the same hand.

Another case in which the outer appearance of the cups need not be decisive, are the nos 1 and 2 of the list of the APP. It is true when Stibbe writes (*Suppl*. p. 116) that these two cups (cat. 313 and 314; *LV* pl. 126, *Suppl*. pl. 71) 'stimmen so genau überein ..., dass sie nahezu zur gleichen Zeit von derselben Hand getöpfert und bemalt sein müssen'. This holds for the shape and the painting of the secondary ornaments (compare also *Suppl*. pl. 77.2) and also for the preparation of the tondo for the painting, but the bitter-faced, fat perch-fishes in Amsterdam (*LV* pl. 126) lack the monumentality, fluency and, so to speak, the artistic musicality of the great eagle of *Suppl*. pl. 71, which holds the horrible snake in its talons but has failed to catch it in its beak, and is now bitten in the throat. In this monumentality, the picture is more like the Hunt Painter's Cerberus (*LV* pl. 72, no 217), than any picture by the APP, though the ornaments and shape of the cup by the Hunt Painter are very different.

In other words, the identification of figure painters by shape and secondary ornaments seems risky (for instance, see pl. 22, no 6/119, by the Arkesilaos Painter, p. 50, fig. 6). I would like to believe that there was more division of labour than Stibbe allows. The number of profile-section drawings of the cups painted by the APP is not great, but they clearly separate into two distinct groups: on the one hand the high-stemmed, thin-walled, convex-lipped, delicate nos 313 and 316 (*LV* p. 35 figs. 38-9, pl. 126) and, on the other, the heavy-walled, wide- and shorter-footed, straight-lipped cups with heavy, stiff handles shown in *Suppl*. figs. 33-39 on pp. 185-195. One would expect, that it needs two different potters to make such different cups. Besides, is it really possible that the painter here called APP was responsible for the shaping of such delicate, high-stemmed cups as nos 313 and 316, the production of which surely requires an expertise such as is easily underrated? On the other hand the shape-drawings in *Suppl*. pp. 185-195 seem sufficiently alike to be attributed to a single potter (and a single ornament painter).

In all this, I am thinking, of course, of the r.f. cups from Athens, where potters were rarely their own painters. Division of tasks, even of ornaments and figures, was surely quite common, also outside Athens, especially since throwing and turning is swifter than painting vases. Therefore, if the cups were not always thrown by the painter himself, their overall appearance might be misleading: cups by other painters would then show the same characteristics of shape (and perhaps secondary ornaments) as those by the APP. That this is sometimes so, though not specifically confirmed for the APP, is said in *LV* p. 13: 'Dieselbe Schalenform ist manchmal von verschiedenen Malerhänden dekoriert. Es wäre jedoch voreilig, daraus zu folgern, dass ein und derselbe Töpfer für verschiedene Maler gearbeitet hätte.' Surely, this possibility should seriously be contemplated.

As regards the secondary ornaments, one is inclined to assume that cups sometimes passed from hand to hand during painting: for example, on cups by the Rider Painter, the short, fat tongues are usually rather clumsy (e.g., *LV* no 300, pls. 104-105), but the myrtle wreath of such a cup may be truly exquisite (ibid. pl. 104,2). Sometimes there is a surprisingly wide gap in delicacy between potting and figure painting: the shape of some cups by the Rider Painter, such as *LV* pl. 104 and its counterpart *Suppl*. pl. 57, is subtle and delicate indeed, but their figure scenes with Heracles and the bull, though funny, are naïve and boorish. Such differences can not easily be attributed to the same hand, it seems to me.

To return to the APP: on p. 188 we read that the decoration of the outside of no 14 (cat. no 326, pl. 78) is decisive for the attribution to the APP: the slip covering only the handle zone (which, we are told, occurs only in his work), the type of handle palmette and the unpainted rills on the foot are typical (the reference here to no 28 pl. 72 is a mistake: perhaps Stibbe means the unpainted rills of no 26, pl. 87). The same reasoning is found more often: e.g., APP no 15/327, p. 188, fig. 36, pl. 78. As I have suggested above, the close similarity of the outsides of such cups points to the same potter and the same painter of the secondary ornaments, but leaves open the question of the painter of the figure scenes; in fact, the APP may not have been involved at all in the cups 326-7 of pl. 78.

This theorising about division of labour in potting and painting could be extended to a considerable length (for example, is not the bud frieze in the handle zone of *LV* pl. 35.2, too crude for the Boreads Painter's hand?), but we have to leave it at this: I feel hesitant about Stibbe's picture of the oeuvre of the Allard Pierson Painter - but I like to add that I hope that my hesitation to accept the artistic unity of these cups will on good grounds be dismissed by the experts in this field.

In a monumental book like this, one with copious catalogue references and bibliographic citations, misprints and omissions are bound to occur but the book could surely have done with a thorough final proof-reading. I have mentioned a few errors and shall now add some more, chosen at random.

Fig. 8 on p. 62: read cup no 5 by the Hunt Painter (not no 6). There are numerous slight irregularities in the text: e.g., p. 116 line 2 (type of handle palmette not filled in, similar omissions on pp. 117 and 118). On p. 112 (below, penultimate paragraph) no 6 of the APP (= cat. no 318) is said to imitate a 'Droop' cup (with unpainted rills on the stem of the foot), but perhaps no 14 = Cat. no 326 (pl. 78) is meant. On p. 119, it is suggested that nos 331 and 332 might belong together, but this seems impossible because of the number of circular lines on the outside (pl. 82.2 and 4).

Some other errors and misprints are: p. 190 line 15: *LV* no 260: *read* no 220.

Catalogue: p. 217, no 127: *read* fig. 8 (not 18). P. 241, *sub* no 317: omission of page in Stibbe, *Das andere Sparta*. P. 237: no 288, read p.'105 (103ff)'. Add 'pl. 31' to *LV* 81, no 93. On p. 213, no 98 the reference to John Boardman (book and page) is missing.

These remarks are meant to warn the reader that he must not be too discouraged when he finds details that seem puzzling. The book is a huge treasure of information; the descriptions are meticulous and highly informative. In short, the intensive work of decades and the *acumen* and artistic understanding invested in this beautiful volume surely will inspire great admiration among all students of Greek vases.

J.M.Hemelrijk

M. BERGAMINI (ed), *La Collezione numismatica di Emilio Bonci Casuccini*. Roma: Giorgio Bretschneider, 2001. 217 pages; 27 plates, 8 figs., 30 cm (Archaeologica 132). – ISBN 88-7689-203-6.

This volume, with contributions by Margharita Bergamini, Paola Bittarelli, and Sandra della Giovampaola, is dedicated to the reconstruction and publication of the coin collection of Count Emilio Bonci Casuccini. In the introduction, the authors trace the history of antiquarian interest in this family. A first collection of antiquities, amassed in the early 19th c., was sold to the Royal Museum at Palermo in 1865. Inspired by the loss of this collection, count Emilio (1876-1934) strove to build a new, equally important collection in the first decades of the 20th c., which he displayed at his villa in a hamlet near Chiusi. Among the first visitors was a young Ranuccio Bianchi Bandinelli. In 1952 count Emilio's heir Alessandro sold the collection for a symbolic fee to the museum at Siena, where it still forms an important part of the core collection.

In neither the sale to Palermo nor to Siena were ancient coins included in the transaction. Count Alessandro retained for himself a collection of 795 coins, largely if not wholly amassed by his father. It is this collection, consisting of Etruscan, Roman Republican and Imperial coins, as well as coins of the Republic of Siena, that is presented in this volume. Unfortunately, over half the collection (virtually all Imperial Roman and later coins) was stolen from the villa in 1969, so that only 347 predominantly Etruscan and Republican coins were available for study. These coins now form part of the collection of the Monte dei Paschi di Siena bank, to which they were sold in 1978. In this monograph they have been carefully and competently catalogued, and illustrated with photographs of reasonable quality, albeit rather dark. The stolen coins are listed as well - based on the hand-written card-catalogue of count Emilio - but, obviously, not illustrated.

The importance of this collection, the authors assert, is that it consists of coins found locally - i.e. in the region of Chiusi and the Trasimene lake - and hence sheds light on coin circulation in the region. They base this on a remark by R. Bianchi Bandinelli, but it is somewhat undercut by Giuseppina Carlotta Cianferoni's statement, quoted on p. 18, that count Emilio's collection of locally discovered antiquities 'was also increased with acquisitions on the antiquities market, notably of Etruscan and Roman coins'. And although count Emilio apparently knew the precise provenance of at least some coins in his collection, he did not record this information. As a result, virtually the only coins whose provenance is certain are those of the Montalcino - Val d'Orcia hoard of over 133 coins minted in

Populonia, of which count Emilio acquired 53 coins, while the rest were sold to other collectors. This hoard, discovered in 1930, was published in its entirety by Bianchi Bandinelli in 1932.

This fact, together with the uncertain provenance, and the loss, of the majority of the other coins, leaves the reviewer rather baffled as to why this book was produced at all. No doubt tracing the history of this collection is of some, minor, interest. It is, however, fairly small, and the most important coins in it were already well-known from Bianchi Bandinelli's publication in 1932. There is certainly scope here for a much more tightly written article in a respected numismatic journal, giving an overview of the whole collection and expanding the previous publications of these coins with the modest amount of new information provided here. For a book, however, the content is too meagre and much of it far too trivial. Attempts to enhance the publication are apparent in the superfluous plates, such as figs. 2-4 (title pages of antiquarian numismatic books in the Bonci Casuccini library) or document 3 (a full-page illustration of a short newspaper clipping reporting the theft of 1969), as well as the overly generous layout of the catalogue, which requires 96 pages to list a mere 347 coins). Given the enormous strain on the resources of academic libraries worldwide, producing such a book as this, with its exorbitant price-tag, is a disservice to the academic community.

Steven E. Hijmans

M.J. VERSLUYS, *Aegyptiaca Romana. Nilotic Scenes and the Roman Views of Egypt*, Religions in the Graeco-Roman World 144, Leiden, Brill 2002. XV, 509 pages, 171 figures in the text.

Centered around an extensive catalogue of images, Versluys offers a thorough reexamination of Roman Nilotic scenes and, more in general, Roman *aegyptiaca*. The study is divided into five parts: I. Introduction; II. Corpus Figurarum Niloticarum; III. Nilotic scenes in the Roman world. Interpretation and contextualisation; IV. Roman Aegyptiaca; V. The Roman discourse on Egypt reconstructed. The section headings document Versluys's ambition to move beyond a mere enumeration of Nilotic scenes, and he has succeeded admirably. This is not only a very useful book but also a thought-provoking one.

Versluys debunks many sometimes facile conclusions of earlier scholarship - Nilotic scenes are not, for instance, somehow connected with the cult of Isis - offering instead a very different overarching interpretive framework that is explicitly tentative. Versluys proposes, in section V, that one way to view Nilotic scenes is as elements in the Roman discourse on Egypt, in which Egypt fulfilled the role of Other. This approach to the social functions and meanings of Nilotic scenes is most welcome. His conclusion that they were more than simply scenes of *truphê* deserves close attention, and his concept of Egypt as *Other* is promising and provocative. But there are also problems, as Versluys himself points out when he states, with complete justification, that few studies attempt to answer the types of questions he asks, and even fewer explicitly reflect on how to do so (295-299). His own solution has been to use ethno-historical comparanda and literary sources to construct his 'theoretical framework' (389). This results in his proposal that Egypt gradually came to be constructed as Rome's *Other*. He then turns to the images, viewed as 'reflection of a specific discourse' (435), and sees his hypothesized Roman discourse on Egypt reflected in them, for instance in the preponderance of malformed dwarves engaged in shocking behaviour.

Versluys is certainly right that classicists must do more with the type of material he collects in so exemplary a fashion, and the questions he tries to answer are important. But ultimately the manner in which he bridges the gap between his data and his Roman 'discourse on Egypt' is not wholly convincing. Can we really understand Nilotic scenes as a 'Roman construction of Egypt' (387)? Are the images of dwarves/pygmies a direct reference to the above-average occurrence of such little people in Egypt (275)? Do their activities - sexual and otherwise - suggest Egyptian depravity and convey a pejorative connotation to these scenes (436)? The problem is not that these assumptions are inherently unlikely, but that Versluys does not establish clearly that they are valid within the visual systems of signification to which the images he discusses belong.

Let me illustrate this by turning to Philostratus Maior's *Imagines* I,5, an ecphrasis not discussed by Versluys, in which the rhetor ostensibly describes a Nilotic scene. This is almost certainly a fictitious 'painting', for Philostratus brilliantly conflates the two stock image-types of the Nile: what starts out as a reclining river deity gradually transforms into a typical panoramic scene. The painting is richly populated with *putti* clambering over the river god and entangled in his beard, but as Philostratus shifts the Nile-image, so too do the putti change. From babbling babes they become babbling brooks, the 'fingers' or 'arms' (*pêcheis*) of water that rapidly extend from the swelling Nile into the surrounding fields, heralding the oncoming flood. Philostratus is making a play here on the word pêchus, used for such arms of water but also, as Lucian (RhPr 6) confirms, to denote the arm's- or cubit-length children of Nile imagery.

It may be worth exploring whether this ecphrasis offers an alternative explanation for the many dwarves in Nilotic scenes - Versluys assumes the roles of the *putti* and dwarves to be comparable, p. 277 - but that is not my point. Philostratus's descriptions are predicated on the well-known capacity of Roman images to take on culturally agreed meanings, unrelated to their actual appearance (no river resembles a bearded man, no flood-arm of the Nile a *putto*). It is the potentially arbitrary relationship, in Roman image-signs, between signifier (image of reclining man) and signified (concept 'river') that makes Roman art such a powerful, but complex, communicative tool. And it is at this level of visual signification that Versluys's analysis is most problematic. Versluys sees images as 'reflection of a specific discourse', allowing him to locate their deeper meaning somewhere outside the images in some external 'discourse'. However, according to current material culture theory, images construct their meanings as part of, and in contribution to, such discourse. The difference is essential, for this means that we must first decide

what it is that we see, before we can begin to discuss what that image contributes to some broader social discourse. Rather than Versluys's 'theoretical framework' reconstructing the broader Roman discourse on Egypt, what we need for his Nilotic scenes is a theoretical framework that explains how those images construct meanings.

Versluys recognizes this of course, and tentatively seeks inspiration in S. Muth's concept of *Polyvalenz*, but he is right that Classicists have not reflected on the modalities of visual signification in Roman art (though cf. T. Hölscher's *Römische Kunst als semantisches System*). Indeed, as Paul Zanker points out ('In search of the Roman Viewer' in D. Buitron-Oliver (ed.), *The Interpretation of Architectural Sculpture in Greece and Rome*, 1997, 179-191), though we cannot simply put ourselves in the shoes of the Roman viewer and blithely assume that we see what they saw, yet this is precisely what classicists have always done.

Obviously Versluys is not to blame for the fact that we lack a thorough understanding of the Roman system(s) of visual signification. Nor should this issue detract from his book, every section of which is excellent. However, the difficulties he documents in his attempts to arrive at a sensitive, contextualized understanding of the social function Nilotic scenes well illustrate the importance of this deficiency. One hopes this book, with its persuasive insights and promise, will therefore inspire more comprehensive explorations of Roman systems of visual signification, be it through the theoretical frameworks of visual semiotics, or some other powerful theoretical system.

Steven E. Hijmans

LARISSA BONFANTE, *Etruscan Dress*. Updated Edition. Baltimore/London: The Johns Hopkins University Press, 2003. 161 pp., 164+7 figs.; 25.2 cm. – ISBN 0-8018-7413-0.

This book is not a rewritten version of the famous book published by Larissa Bonfante in 1975 and soon afterwards out of print, as it contains the complete original text with all its illustrations. The real update is a new chapter at the end entitled 'Bibliographic Essay, 2003' (p. 213-229), including new discoveries (e.g. at Verucchio (near Rimini) and Decima (Latium)), advances, focuses and problems in dress and more general topics such as gender distinctions, gesture language and the symbolism of nudity. It becomes clear that since 1975 more attention has been paid to the technical aspects of textile working on the one hand and to the relation between wool working, women, and writing on the other hand. As for the production process the reliefs of a splendid wooden chair from Verucchio, dated to the 7th cent. BC and showing scenes of wool working, are very informative. The graffiti on spools and loom weights prove that aristocratic women at Verucchio could read and write. They were more than *domisedae lanificae*... Bonfante further deals with the representations of dress on an exciting bucchero olpe from Caere showing scenes with Etruscan inscriptions reading *taitale* (Gr. Daidalos) and *metaia* (Gr. Medeia). She interprets the inscription *kanna* on a long cloth as `gift' but it might be better translated with 'reed-mat (clothing/ornament)' like the Greek word *kanna* (see M. Menichetti, *Ostraka* 4, 2, 1995, 274-275). The identification of a number of primitive figures is still controversial. The terracotta roof statues from the famous building at Murlo are now interpreted as ancestors. Other ancestor statues are the terracotta statues from the Tomb of the Five Chairs at Caere, and the relief figures from the Tomb of the Statues at Ceri (near Caere). The author also discusses two stone statues from Casale Marittimo (in the Volterran area) showing a mourning male and female figures, both wearing a *perizoma* (and therefore usually identified as male), dating from the 7th cent. BC. Furthermore, she pays attention to the long-lived continuity of particular dresses, e.g. skin garments, worn by priests from the prehistory onwards. She concludes that the dress of the Hellenistic period, especially as represented on urns from Northern Etruria, still needs to be studied. This will be a difficult job as each figure has to be analysed to see whether e.g. a mythological representation is a copy of a Greek model and/or whether it shows, as a kind of local colour, also indigenous, Etruscan dress. Bonfante's new bibliography is useful and shows clearly that new generations of scholars are active in the field of textile and dress studies.

L.B. van der Meer

DIRK STEUERNAGEL, *Kult und Alltag in römischen Hafenstädten. Soziale Prozesse in archäologischer Perspektive*. Stuttgart: Franz Steiner Verlag, 2004. 287 pp., 6 ill. in the text, 26 ill., 12 plates; 24 cm (Potsdamer Altertumswissenschaftliche Beiträge 11). – ISBN 3-515-08364-2.

Of several new books on Ostia to have appeared in the last decade, the most recent is by Dirk Steuernagel. The subject is cult and everyday life in the three most important Roman harbour cities - Puteoli, Ostia and Aquileia - focusing on social processes as seen from an archaeological perspective. It is a bibliographically updated version of a habilitation thesis presented at Frankfurt am Main University in 2002 with a systematic, analytical, diachronic, and, interestingly, a comparative approach. Steuernagel was allowed to read the manuscript of A.-K. Rieger's monumental and well illustrated *Heiligtümer in Ostia* (München 2004, focusing especially on Quattro Tempietti, the Campus of Magna Mater and the Tempio Rotondo), and he often agrees with Rieger's observations. Steuernagel offers an introductory chapter on method and research histories of the cities under discussion. Ch. 2 presents the sacred topography of the cities mentioned, including their urban development. Ch. 3 deals separately with 'indigenous' and 'Roman' cults. Ch. 4 sheds light upon the central role of cult unions and union cults (often cults of *collegia* or *corpora*), in the second and first half of the 3rd century AD. Ch. 5 is entitled: 'strangers' and 'strange (elements)' in the city. It discusses the presence of cult places of Egyptian gods, of Magna Mater and

Attis and other cults from Asia Minor, Syria and Arabia. In Ch. 6, Steuernagel draws his main conclusions. Excellent indices, drawings, maps and reasonable photographs conclude the book. Although there is a list of abbreviations, most publications are, unfortunately, hidden in footnotes.

In the introduction Steuernagel states his intention to give a total picture of the history of religion in the three selected harbour cites. What religion or *religio* implies is not fully defined, but it is treated as a symbolic system enabling communication and interaction. Therefore, Steuernagel uses the sociological term 'community'. He tries to study religious monuments in their context and questions the impact of a cult on certain groups of the urban population. It emerges that much evidence of private religion or religion in a private context is skipped, probably as it has been published by J.Th. Bakker (*Living and Working with the Gods*. Amsterdam 1994). That is unfortunate as there is not always a clear borderline between private and non-private religion. In *insulae*, different social groups lived together, formed a community, saw each other at least in courtyards on ground level and evidently had together one house god, e.g. Diana as can be seen in the House of Diana (p. 106). Steuernagel compares the three cities as they had large commercial networks from the Republican period onward, had relatively large numbers of slaves and *liberti*, had many *collegia* in the 2nd century AD, and received special attention from the emperors. The distinguishing features are that Ostia was rather dependent on Rome, that Puteoli was rather cosmopolitan and attractive to the Roman elite, and that Aquileia was the military base for actions in the Balkan and Danube area. One might add that after AD 64 Ostia gradually lost its sea harbour function due to the creation of the Portus Augusti. In Ch. 2 Steuernagel lists and discusses all sacred places in four successive periods: from the beginning of a colonia until the Sullan period, from ca 80 BC until ca AD 100, the period ca AD 100 to 250, and from ca 250 AD until late antiquity. This is no easy task as, especially at Ostia, some religious buildings have not yet been found, and others have not been clearly dated or identified (p. 64, 65, 71, 72; 74, 75, 76, 77, 78, 79-81, 82, 84, 86-87; 88, 90, 91, 162, 167). Although Steuernagel stresses the archaeological perspective, without inscriptions he would hardly have any information about Ostia's buildings, builders, sponsors and users. In Ch. 3 it becomes clear that the presence of local ('indigenous') gods (Belenus in Aquileia and possibly Vulcanus in Ostia) in the archaeological evidence is hardly visible. The Volcanus temple(s) at Ostia have not yet been found. Ch. 4 shows very convincingly the enormous importance of corporations between ca AD 100 and 250, often paying attention to the emperor cult. These unions form the social and religious backbone of Roman society. In Ch. 5 Steuernagel concludes that the influence of strangers on the spread of East-Mediterranean cults was very limited. Immigrants had no religious mission (though the Christians certainly had). Also strange rites or cult elements are few, as they were usually influenced more (Isis/Serapis) or less (Magna Mater/Attis) by *interpretatio romana* (the adoption of or assimilation with Roman gods, the inclusion of emperor cult, etc.). Usually liberti were the worshippers. Urban regions or vici with a high concentration of strangers do not seem to have existed (though we must realize that the find-spots of many inscriptions, especially in Ostia, are not known). In Ch. 6 Steuernagel compares once again the three cities; in Aquileia there was no crisis after ca AD 250 as in Ostia; in Aquileia the Christian religion had more success than in Ostia; in general eastern cults were a marginal phenomenon at Puteoli, notwithstanding its cosmopolitan character. The importance of 'guild' and emperor cults, especially during the 2nd century AD, is visible in each city. But from the end of that century onwards 'guilds' became less important as *curatores rei publicae* from Rome at Puteoli and Ostia took over the local administration. The last *duoviri* mentioned in the *Fasti Ostienses* date from AD 175.

Although Steuernagel does not offer many new insights, his book is compact, handy and easy to consult. An interesting conclusion, which he shares with A.-K. Rieger, is that the worshippers of Mithras at Ostia had an organization comparable to that of 'guilds', probably because members of several guilds frequented Mithraea. Some questions remain. That entrepreneurs, often successful *liberti*, worshipped their own gods in temples in or near *scholae*, is clear, but what about other social groups? Is it enough to use temples and *sacella* (or inscriptions referring to them) for the reconstruction of a sacred topography and its impact on social relations? In the case of many temples it is not clear who the worshippers were. Romans saw a difference between *loci religiosi*, *sacri* and *sancti* (cf. Festus, ed. Lindsay, pp. 348-350). Why, for example, does one of the main entrances of the Garden Houses at Ostia (III.ix) show a club in relief (just like the façade of the Caseggiato dei Misuratori di grano (I.vii.1-2))? Does it mean that the whole Garden Houses complex was *sanctus*, i.e. protected by Hercules? (for the city quarter aspect see now also: J. Bert Lott, *The Neighbourhoods of Augustan Rome*. Cambridge 2004). Were religious elements, e.g. statues (especially of Venus!), not visible everywhere in the city, were temple cults like that of the Capitolium not accessible to all social classes? Christians would not have had troubles at Ostia until ca AD 394 (date of the last restoration of the Hercules temple and of the destruction of the Edificio dell'Opus sectile), if there would not have been a strong social control. Jews at Ostia probably had no troubles. An inscription found in the synagogue testifies of a pro emperor attitude: *pro salute imperatoris*... It seems that not only authorities but everybody kept an eye on the religiosity of everybody else: emperor cult was compulsory.

If a book attempts to focus on *Kult und Alltag*, it should pay attention not only to the middle and, sometimes, high class but also to the lower strata of society and to everyday cult activities. Steuernagel regards some sacred places as peripheral: the Serapeum, the Campus Magnae Matris and the Synagogue (p. 81). This is a bold assertion as the geophysical research by M. Heinzelmann has shown that the city area was much larger than the, partly unexcavated area within the Ciceronian walls. Between the Serapeum and the Tiber there is a large, partly unexcavated area, but full of buildings according to Heinzelmann's research. The place of the Sanctuary of Magna Mater (triangular, near the city wall, as at Lyon) may be explained by the fact

that Cybele, certainly originally, protected cities and city walls. The position of the Synagogue may have to do with the presence of (sea-) water as in some other Mediterranean places.

Steuernagel has written a useful book, with many incentives for modern research. His research is, however, less archaeological than that of Rieger. If one compares both books however, it appears that Steuernagel is more cautious than his colleague.

Comparison of the social status of religious phenomena in different cities may be a comparison between apples and pears if the amount of documentary evidence is unbalanced. And Ostia is better known than Puteoli and Aquileia.

L.B. van der Meer

PATRIZIO PENSABENE/STELLA FALZONE (eds.), *Scavi del Palatino* 1. *L'area sud-occidentale del Palatino tra l'età protostorica e il IV secolo a.C. Scavi e materiali della struttura ipogea sotto la cella del tempio della Vittoria*. Roma: «L'Erma» di Bretschneider, 2001. XXXIV+ 290 pp., 62 fig., 100 tavv.; 30 cm (= Studi Miscellanei 32). – ISBN 88-8265-119-3.

Nel 1975-1976 la cattedra di Archeologia e Storia dell'arte greca e romana dell'Università di Roma 'La Sapienza' riprese i sondaggi nell'area del tempio della Magna Mater sul Palatino a Roma. L'obiettivo era quello di acquisire una visione più chiara delle vicende della sua edificazione e del luogo che era stato scenario dei Ludi Megalenses. Il lavoro qui in esame presenta parte dei risultati di quelle ricerche, riservando particolare attenzione alla struttura ipogea di epoca arcaica rinvenuta sotto la cella del Tempio della Vittoria e al riempimento che l'ha obliterata. Lo scavo viene inquadrato nel relativo contesto, che abbraccia l'arco temporale tra i più antichi resti arcaici presenti nell'area fino alla costruzione del Tempio della Vittoria.

Il testo, preceduto da una bibliografia molto ampia (pp. XIII-XXXIII), è articolato in due sezioni. La prima (pp. 1-152) inizia con l'interpretazione delle evidenze archeologiche alla luce dei miti di fondazione: Pensabene offre qui una dettagliata analisi dei resti corredata di una pianta generale di grande chiarezza (fig. 1). Al periodo orientalizzante e a quello arcaico risale la realizzazione di una rete di cisterne con relativi pozzi, a volte in vecchie cave di tufo, aventi funzione di riserve d'acqua. Reperti ceramici databili al medesimo periodo attestano un'occupazione dell'area, che lo studioso ascrive a un contesto laziale tra la fine dell'età del bronzo e il VI secolo a.C. concludendo: 'Inoltre alcune di queste strutture ... hanno in comune con il Palatino la peculiarità di sorgere in aree in seguito divenute sacre.' Alla fine del periodo arcaico la zona è interessata da una monumentalizzazione, come evidenziano tra l'altro i resti di un tempio dell'inizio del V secolo nel luogo dove in seguito sorgerà l'*Auguratorium*; la struttura ipogea sopra menzionata fu certo annessa al tempio in funzione di favissa per i resti architettonici e ceramici relativi alle attività sacrali anteriori alla costruzione del tempio.

Segue quindi l'illustrazione del saggio di scavo sotto la cella del Tempio della Vittoria ad opera di Stella Falzone (pp. 21-60), che fornisce descrizioni e analisi accurate dei resti della struttura circolare ipogea, tagliata da blocchi di tufo pertinenti alle fondazioni del Tempio. Un appunto va mosso ad alcuni disegni della documentazione che presentano un tratto eccessivamente spesso (fig. 4, 6 e 7). Oltre ai resti dell'antichità classica la trattazione considera anche quelli del postantico. Così vi sono i resti di 'grosse azioni di spoliazione ... dal medioevo al XVII secolo.' E inoltre tracce di vecchi scavi che, a motivo del rinvenimento di maiolica, hanno un *terminus post quem* del 1300 d.C. circa.

La struttura circolare, dal diametro di 6,50 m, ha muri in *opus quadratum* irregolare di tufo lionato e tufite grigia con argilla come malta. Imponente la quantità di materiali restituiti dal riempimento e tra questi non sono ancora state analizzate le numerose ossa animali, mentre i resti di sostanze vegetali rinviano a due attività: la cucina a scopo alimentare e la divisione del grano dalla crinea. Il fatto che frammenti che combaciano si trovino in strati diversi indica che il materiale giaceva in precedenza altrove. Sui circa 63000 reperti, grosso modo 1570 frammenti sono con certezza riferibili a periodi ben precisi; la fetta più consistente di questi si colloca nel VI secolo a.C. Rappresentano invece una piccola percentuale le preziose terrecotte d'importazione destinate ai banchetti. In un'appendice al capitolo in esame Claudia Angelelli formula l'ipotesi che gran parte del materiale sia di natura votiva e 'probabilmente da ricollegare ad edifici di culto arcaici'.

Nella loro analisi dell'occupazione protostorica nell'area sud-ovest del Palatino, Claudia Angelelli e Stella Falzone (pp. 65-78) avanzano una proposta convincente di rilettura delle evidenze archeologiche e presentano una cronologia relativa. Il villaggio capannicolo, scoperto già in passato, risulta oggi più esteso grazie ai nuovi ritrovamenti.

Il periodo seguente, preso in esame da Paola Battistelli (pp. 79-144), è compreso tra VI e IV secolo e va dalla demolizione del villaggio capannicolo preistorico fino alla costruzione del Tempio della Vittoria. Per una migliore comprensione del periodo, la studiosa considera dapprima i vecchi scavi, per confrontarli a loro volta con le fonti scritte e i risultati degli scavi recenti. Su questa base ella ritiene che l'abitato capannicolo venga abbandonato nella prima metà del VI secolo. Cosa poi venga al suo posto non è chiaro: si accenna a un modesto quantitativo di resti murari e a un'ingente quantità di 'frammenti di terrecotte architettoniche e frammenti di oggetti di uso domestico, per una parte dei quali è accertata o ipotizzabile una utilizzazione di carattere votivo ...' Il materiale ritrovato rinvia a un'edificazione di natura monumentale sul più alto dei terrazzamenti. Nel V secolo viene quindi costruito il grande tempio prima citato sul retro del cosiddetto *Auguratorium* nell'area centrale del terrazzamento superiore. Di questo tempio ci sono pervenuti pochissimi resti. All'inizio del IV secolo viene realizzato un innalzamento del piano di calpestio e poi eretto il Tempio della Vittoria.

La I parte termina con le conclusioni di Patrizio Pensabene e Stella Falzone (pp. 145-152), secondo i quali

'nel riempimento della struttura ipogea confluirono depositi originariamente relativi sia alla distruzione di edifici sacri che di abitazioni, genericamente databili tra l'età regia e quella arcaica.'

Si passa quindi alla II parte del lavoro, il Catalogo dei reperti (pp. 153-289), compilato da diversi autori. Vi è stata adottata una classificazione tipologica con una definizione di forma piuttosto generica e una tipologia basata sulla varietà. Le categorie principali prese in considerazione sono: ceramica di impasto bruno di epoca protostorica e orientalizzante (ca. 5400 frammenti); ceramica di impasto rosso di epoca orientalizzante (ca. 4400 frammenti); la produzione in impasto rosso-bruno: bacini e dolii; ceramica d'impasto sabbioso e la terracotta fine tipo ceramica depurata, bucchero, ceramica etrusco-corinzia e d'importazione greca. Per ogni categoria viene illustrato il modo di classificazione del materiale e la cronologia, seguono poi le descrizioni. Il catalogo è corredato di un cospicuo apparato di tavole, purtroppo molto diseguale da un punto di vista qualitativo: il risultato più modesto in questo senso è raggiunto dalle tavole 78-87, che presentano un tratto troppo spesso. Si tratta tuttavia di un difetto poco rilevante di questa pubblicazione di scavo, nell'insieme invece decisamente accurata e seria.

Stephan T.A.M. Mols

ALBERTO BARZANO *et al*. (eds.), *Modelli eroici dall'antichità alla cultura europei. Bergamo, 20-22 novembre 2001*. «L'Erma» di Bretschneider, 2003. 425 pp., ills; 24 cm (Centro Ricerche e Documentazione sull'Antichità Classica. Monografie 23; Alle radici della casa comune europea 4). – ISBN 88-8265-246-7.

The volume presents the results of a meeting some five years ago and forms part of a series of congress volumes on eternal values in Europe stemming from Antiquity. There is little archaeology in it (to focus on the main theme of this periodical), more history and literary analysis, but that does not detract from its importance to all students of the antique world.

The argument for this fourth meeting was proffered by Ph.A. Stadter, a Plutarch specialist and the volume is also dedicated to him (see the praising words by G. Zecchini at the beginning). G. Camassa discusses the changing character of Orestes in Greek literature. A problematical point is the guilt he has when revenging of his father and, so, becoming the murderer of his mother. The dramatists give different outcomes and that is also true for the ablution after the murder. His tragic destiny is that he has to revenge and therefore becomes guilty. The paper has neither an introduction nor a conclusion and, for its contents, better fitted a periodical specialised in Greek literature, finding there more readers.

M. Giangiulio, who works on the Greeks overseas, has delivered a brilliant essay. He follows some Greeks on their *nostos* from Troy who became *ktisteis* of 'colonies' in Magna Graecia. Herakles did the same on his forced tour with the cattle of Gerion. The author argues that these Greek narrations, from Homer onwards, corresponded with local sagas, not known to us from literary source. As to Herakles' in Sicily one might add the confrontation with Cacus/Kakos on the Palatine in Rome. A general point is the introduction of a stranger who becomes king and/or founder of a city.

H. Heftner highlights Theseus' symbolic role in the democracy of Athens in the 5th and 4th centuries BC. He was a king himself, but could be seen as a democrat for his qualities as inventor of Athens as a state and for giving her forces. His monarchy even was seen as a sort of democracy, as he gave rights to his kinsmen (e.g. Euripides' *Hiketides*). His 'format' was that of a Perikles. Some hundred years later, Isokrates presented Theseus as an example who left all state business to the citizens, whereas the *Attides* make a lawgiver of him. The essay suffers from numerous misspellings, in German and Greek alike.

With A. Mastrocinque we turn to the image building of dynasts who seek (or not) a parallel with the gods. In general, the gods are no rulers, because of the inborn abjection of kings and tyrants of Greeks and Romans from the late 6th century onwards. Rulers take elements from the gods and rule with the *providentia deorum*. The Hellenistic city kings and the Roman *princeps*, therefore, have immortal aspects as an institution only, not personally. There never is a cult for them (p. 58), even if some of them are called *theos*. Antiochos I of Kommagene, for example, would be deified after his death as a new Tyche. A special category forms the hero born with qualities like natural strength (Pyrrhos) or teeth (M'. Curius Dentatus). These might be gifts of the gods.

E. Culasso Gastaldi makes clear how Euphron II of Sikyon and Lykourgos from Athens got honorific inscriptions and statues during crucial moments in the aftermath of the Lamian War, when they functioned as models for the new birth of the democratic state Athens always had been (or wanted to have been).

L. Prandi wrote a sequel on her previous study on the Athenian casualties of the Persian Wars and asked whether these 'heroes' had a specific role within the state of Athens and beyond. She made clear how the phenomenon of the *demosion sema* and the *epitaphioi logoi* was restricted to Athens and got some imitation elsewhere. The praise of heroism of those who fell for the state is not found in Sparta, where this is an obligation, not a specific quality.

C. Tuplin tackles Xenophon's *Anabasis* as a Homeric work, singling out the heroic elements. He distinguishes between Homeric heroes, evoked or equalled in the situations the Ten Thousand encountered on their *nostos* (speech, linguistic aspects, mythic parallels etc.) and treats the generals who get a heroic aura of the author who, in a certain way, is the greatest of all. This is a very intriguing essay.

D. Ambaglio treats the heroic status of Alexander the Great's generals. This level was reached when they (1) rescued their leader (hence *Ptolemaios Soter*), (2) they were wounded like him, (3) got a wreath from him and (4) had a victory in a duel.

F. Landucci Gattinoni points at the negative hero, i.c. Kassandros in the view of Plutarch, who often names him and mostly in negative sense. He apparently did not deserve his own biography by the man from Chaironeia!

K. Buraselis speaks about hero 'cults' (cf. however Mastrocinque). Most persons in the area around Alexander the Great got a lower status than god. The essay is interesting for the social definition of 'hero levels'.

D. Briquel contributes one of the most fascinating texts of the book, dealing with Lucretia and Cloelia. The ladies were the pivotal figures at the start and the end of the drama concerning the abolishment of kingdom at Rome. In his structuralist essay Briquel makes clear how they could have been transformations of 'royal' goddesses, adapted to the 'republican' format.

K.-J. Hölkeskamp acutely analyses some mythical *lieux de mémoire* at Rome and defines the cityscape as a *milieu de mémoire* in which the citizens were constantly surrounded by heroes, hidden and visualised alike. This took great dimensions in the 3rd century BC and increased gradually.

H. Beck sees Plutarch's Lifes of Fabius Maximus Cunctator and M. Claudius Marcellus as parallel Lifes for their own sake. Plutarch omits from one Life what is highlighted in the other. He finely takes into account the information and paragone presented in the official counterparts, the lives of Pericles and Pelopidas.

M.T. Schettino also treats a Plutarch's Life, that of the 'anti-hero' Crassus. The vita mainly concentrates on the tragic march against the Parths and the death at Carrhae. This theme was hot in the time of the composition, 114-115, as Trajan was conquering this region.

J. Bollansée starts with Boccaccio's *De mulieribus claris* from 1361-1362, asking whether the Italian humanist could know Greek predecessors (> no) and continues analysing a recently published anonymous treatise on fourteen antique queens. These are debated as unwomanlike figures, doing *thaumasta*.

M. Piérart might have written the introduction to the volume. His text lists the various possibilities of honours to benefactors of Greek cities during the empire and ways of heroisation or confronting to ancient heroes. Titles, public acclamations, statues, funerary monuments are among the means used to thank these rich *euergetai* of the cities.

M. Rizzi tackles the phenomenon of martyrs as Christian heroes. He continues a rather hot debate of the last decade, starting with Bowersock's 1995 monograph on the topic. A parallel drawn with the 9-11 New York tragedy does not convince.

P. Desideri is the first to enter the *Nachleben* treatment of heroes, discussing the late 16th-century work of Jean Bodin on the republic. Like in other essays the author studies Plutarch and other writers as sources for Bodin's political treatises. In the present contribution the emblematic role of Lykourgos is addressed.

J. Geigers reflects on the phenomenon of 'Halls of Fame', unfortunately without illustrations of the examples discussed. He starts with the series of 'Nine Worthies' from the Middle Ages. Some series were made after ideas of Petrarca (oddly spelled as Petrarcha), others had the pairs of Plutarch's double Lifes. Even the gallery of *viri illustres* on Augustus' forum in Rome was taken into account.

A. Demandt writes about Alexander the Great in post-antique images in literature and art. The text is a *causerie* with neither notes nor images. He might have finished with Oliver Stone's Alexander movie of 2004, if he could have actualised his rather generic contribution, which is a pleasant, but not deep-going reading

A. Pérez Jiménez discusses Plutarch's heroes used in emblematic literature of the 16th and 17th centuries. He fortunately gives many reproductions of the examples discussed. In this case we must read Plutarch's treatises like *De garrulitate* and *De Iside et Osiride*, when we look at Alciati's emblems. Later, the Lifes also furnished motti. For many readers the less known Spanish authors form an interesting extra to the better known Italian, French, and German instances. Dutch emblems are not taken into account.

L. Polverini looked for imitations of Caesar and Alexander the Great by Napoleon I and III, but started with Caesar's *Alexander-Angleichung*. The dedicatee Stadter, finally, gave a short address in elegant Italian in which he argued that Plutarch did not want his heroes of the Lives to be imitated *stricto sensu*. The Chaeronean had a keen eye of week and strong facets of these people and invited (leaders) to reflect upon power and on the individual's role in the process of state making.

The editing has not been done with care, for there is no homogeneous shape of texts and references. Most classicists did not insert translations of their ancient texts. Some authors have bibliographies, others lack these and the title descriptions differ. There is no general summary or conclusion by one of the five editors, three of whom also wrote papers.

Eric M. Moormann

MIKHAIL I. ROSTOVTSEFF, *La peinture décorative antique en Russie méridionale. Saint-Pétersbourg 1913-1914*. Vol. 1: *Texte. Description et étude des monuments*. Vol. 2: *112 planches*. Sous la direction d'Alix Barbet, avec le concours de Véronique Schiltz. Traduction: Arlette Fraysse, Andrea Rychtecky. Paris: Diffusion De Boccard, 2004. XXIX+718 pp.; 131 pp. with 112 b/w and colour pls.; 28 cm (Mémoires de l'Académie des Inscriptions et Belles-Lettres 28). – ISBN 2-87754-114-2.

The Crimea is far away for many archaeologists of the classical world. The remote Greek colonies along the shore of the Black Sea, however, are rich of testimonies that inform about the vivid exchange of cultural impulses from Greek colonists and native inhabitants alike. Nowadays, both local and international scholars do a lot to make this situation better and to fill in the white spots on the map and the bibliography is growing extensively and includes special periodicals. M. Rostovtseff (his name knows several spellings!), famous in the West for his work on ancient economy and the Yale excavations at Doura Europos, to mention only a few aspects of his vast research area, was in his early forties when he published a monumental (in literal and figural sense) monograph on the paintings in tomb chambers in Kertsch, written in his native tongue, Russian like all his works until that time. Most of the studied murals got the epitheton Hellenistic, although many of them dated to the Roman period, because the Russian scholar parted from

the idea of a cultural continuity stamped mostly by Hellenistic art forms. This work remained unreadable for most scholars in the field and, moreover, it was very rare in libraries in the West. Students of ancient painting had to refer to the English article by Rostovtseff in the 1919 issue of *Journal of Hellenic Studies*. The arduous scholar of ancient wall painting, Alix Barbet, pleaded for a translation many years ago and she now has the great satisfaction that a French translation could be realised with funds from the prestigious Académie des Inscriptions et Belles Lettres at Paris.

Barbet did more than promoting the translation. The text is enriched by a short introduction about Rostovtseff and his project and by additional notes that actualise some of the matters discussed by the author. Wherever possible, Barbet revisited the monuments and studied fragments in the museums of the Hermitage at St Petersburg and at Odessa. This must not have been easy a task and sometimes rather frustrating. Rostovtseff himself already had lamented the loss of many monuments he knew from reports by local amateurs and (semi-) professionals. Several tomb chambers had been discovered in the 1850s, 1860s and 1870s and were known to him thanks to reports and ocular testimonies only.

Each chapter presents a tomb or a group of tombs in a tumulus (Rostovtseff uses the word kourgane) or other systematisation. Some house decorations, esp. from Pantikapaion, are included as well. The descriptions start with the location and the find circumstances, are followed by those of the architecture and the decorations and finish with the presentation of the finds, if any available. Then Rostovtseff discusses iconography of representations, composition and style of the decoration schemes of murals and vaults and tries to conclude with a dating proposal. The illustrative apparatus is rich, not only in the form of the black-and-white and colour plates but also by means of drawings and photos in the text. A few chapters discuss more general themes like the genesis of the First Style in the eastern half of the Mediterranean world and the rise of Christian art. The French editors present the work in a nice format and always give the correct pages of the original edition, so that the modern user might refer to the 1913-1914 and 2004 editions at the same time.

The book is highly commendable for libraries of classical studies. Of course in many respects the analyses by Rostovtseff are out of date, as we have a greater knowledge of comparable monuments (esp. Alexandria and Pompeii), but the reader will be struck by the wealth of knowledge the author displays. He comes to judgments which often hold still very well (in some cases Barbet's remarks expand the examples and give extra evidence, but do not refine Rostovtseff's analysis). With the extremely opulent documentation and descriptions, this still forms a landmark in the study of funerary decorations. All these splendid illustrations are of a level numerous later studiosi could even dream off. I remember how I once had to consult the Russian text, as one of the plates offered me a possible comparandum and was happy to find a colleague who could translate the passage I needed. But in publishing the parallel I always remained unsure about my 'grasp' of one single element: had I understood the whole context? I was happy now to see that my friend had helped me well, but like many colleagues am happy that in the future I shall be able to work independently with this book. For a further comprehension of antique funerary customs from the 4th century BC until late antiquity in the eastern part of the antique world Rostovtseff now invites us, as it were, to pick up the glove and to work further. It is not the place here to start the discussion, but the lecture of the texts tickles the reader immediately to do so.

Eric M. Moormann

CLAUDIA LANG-AUINGER, *Forschungen in Ephesos* VIII/4. *Hanghaus 1 in Ephesos. Funde und Ausstattung*. Wien: Verlag der Österreichischen Akademie der Wissenschaften, 2003. 375 pp., 165 pls.; 39 cm. – ISBN 3-7001-3205-0.

Lang's impressive volume concludes the publication of one of the well-known houses on the slope of Bulbul Dağ, again under discussion for various reasons (see my review of Krinzinger's volume about the whole complex of houses, *BABesch* 79, 2004, 225-227). The editor presented the excavation and architecture of the complex in the previous volume (FiE VIII/3, Vienna 1996). Her introduction recapitulates the research and the most important results which are important for a good understanding of the following (see also the Conclusions at the end of the book). The complex was in use from the late 2nd or early 1st century BC until the 7th century AD and many finds stem from filling layers ('Schutt'). The various *domus* were rather rich and lied in a vivid quarter of the big town, across the Temple of Hadrian. The end of their florescence was set by the earthquake of AD 262. A second period of relative prosperity was the 5th century.

The huge book has been edited in the shape of the other volumes in the series, but, for this mostly small material this is rather unpractical and handling it in some excavation house to find parallels will be impossible. It contains the documentation and interpretation of all *mobilia* encountered and registered over the years. For each category experts have been involved who ensure a sound treatment of the classes. The short descriptions of the single objects (which could have been printed more compactly) are preceded by discussions about the find contexts, the possible functions within the various phases and rooms of the 'Wohneinheiten' of *Hanghaus* 1. Lang must confess that the rather imprecise excavation, carried out from 1958 onwards, produced a lot of puzzling finds which are impossible to study within their contexts, while some items are even no longer retraceable in the storerooms (some are known from sketches by the excavators). Krinzinger's 'Nachgrabungen' could not solve (all of) these problems.

Sabine Ladstätter coordinated the analysis of the ceramics (pp. 22-85), first of all the shards found in the 'Nachgrabungen'. Three main layers can be distinguished for the Hellenistic period, reaching up to 8 m of depth and going from the 3rd to the 1st century BC. Among the shards many were fitting, which shows that the excavators came across a clear dump of the objects in one single moment. Among the local stamps is that

showing the Artemis Ephesia (pp. 34-35), being the oldest, late Hellenistic depiction of the type with the 'breasts', well known from frequent occurrences in the imperial period.

The architectural marble and stone elements are discussed by Gunhild Jenewein (pp. 86-120). She shows how in 'Wohneinheit' 3 many Hellenistic and early Roman pieces were used indifferently as *spolia* during the imperial period, even so that too short columns got higher blocks under the official bases to fit. Most capitals, bases and lintels can be dated on the basis of style, measurements and decorations.

Beatrix Assamer tackles an old notion, suggested by Herrmann Vetters in 1963 and never verified about the existence of a 'Byzantine Chapel'. She makes clear that such a room never existed, but the piece functioned as a normal element in the house. Its orientation E-W instead of W-E and the adorning fountain that is no baptismal font are important clues for the new conclusion. The lintels with crosses, another presumed piece of evidence, were brought here like most other building material to be transformed into lime.

Ursula Quatember inventories the marble utensils and furniture, counting some 149 items. The most luxurious object was a table supported by four *pavonazzetto* legs, that had been restored in antiquity. The object in the shape of a Herculean club should be the support of a small table (p. 127). As a matter of fact, Hercules is remembered here as the eager symposiast and drinker and the object is appropriate. There are statues of Hercules himself functioning as table supports from Pompeii. As to the numerous marble vessels the author makes not clear whether they were precious objects or not. This material is well presented, some of it for the first time and not recognized previously as vessels, and the thorough discussion of this category might be of great help to excavators of other house sites.

As to the 125 items of sculpture meticulously discussed by Maria Aurenhammer, the reader encounters old friends, published by the same author in the first volume of the corpus of Ephesos sculptures (FiE 10/1, Vienna 1990; cf. my review *BABesch* 67, 1992, 219-221). The previous publication mainly contains the 'beautiful' pieces, now every scrap of statuary is discussed. Like Lang Aurenhammer deplores the inaccuracy of the excavation's records, for which she is unable to relocate all pieces. The reuse of some items in a later phase does not make this task easier (e.g. two portrait heads, p. 162). Some statues, e.g. the Aphrodite who unties her sandal, show traces of burning. This piece can be dated before the Augustan era on the basis of the find context, which is important, for the stylistic analysis as such does not yield very exact data. The herms of the 'Hermenzaun' in S9 are the only sculptures that remained unaltered as to their position and function. They belong to the third phase buildings (Antonine/Severan). The male bronze head from S/8 is included in this chapter: it represents a philosopher from the early 3rd century. Among the portraits a youth from the era of Gordian, around 240, marks the end of the prosperity. One imperial portrait only, a Commodus, was found in the *domus* (p. 176). The 'Idealplastik' represents a vast set of mythological figures and figurines, mostly not of high quality. The pieces are interesting as examples of the average (?) statuary furniture in a Roman imperial house and illustrate presence everywhere of sculpture (cf. P. Stewart, *Statues in Roman Society. Representation and Response*, Oxford 2003). Aurenhammer points at the similar situation at Chiragan (4th century, Gaul): in both cases most material had been produced at Aphrodisias.

The editor herself produced the chapter on terracotta statuettes. An introduction about technical aspects like moulds also discusses the formats of small pieces, probably made by children. Was there a practice of children's labour? The chronology is based on quality. The clay is local. The iconography is as various as that of the marble statuary. Many nude Aphrodites have been found. Lang does not discuss the distribution of the pieces within the house: this might not be feasible for the fragmentary state of the pieces or the bad excavation documentation.

Sonja Jilek is responsible for the artefacts in metal and bone, which covers various functions: personal ornaments, lamps, vessels, furniture, weaponry and utensils are included. Some pieces demonstrate the existence of Hellenistic houses built before the actual complex. Unfortunately, the fact that most objects were found in the 'Schutt' makes them irrelevant for the functional analysis of the rooms. Even the bronze metalwork of a coach was found in the peristyle; it should date from the early 3rd century. Elisabeth Trinkl presents a specific group of utensils for the treatment of textile, viz. spindles, loom weights and needles. The last category, the coins, is presented in the form of a list by Stephan Karwiese. A German and a Turkish resume complete this very rich volume. The illustrations (drawings, photos in black and white; some items even in colour) are excellent. It surely comes up to the high expectations of the modern excavation practices at Ephesos.

Eric M. Moormann

VOLKER HEENES, *Antike in Bildern. Illustrationen in antiquarischen Werken des 16. und 17. Jahrhunderts*. Stendal: Winckelmann-Gesellschaft, 2003. 216 pp., 158 figs.; 27 cm (Stendaler Winckelmann-Forschungen 1). – ISBN 3-910060-55-2.

ÉLISABETH DÉCULTOT, *Untersuchungen zu Winckelmanns Exzerpthefte. Ein Beitrag zur Genealogie der Kunstgeschichte im 18. Jahrhundert*. Ruhpolding: Verlag Franz Philipp Rutzen, n. y [2004]. 208 pp., 8 figs.; 26.5 cm (Stendaler Winckelmann-Forschungen 2). – ISBN 3-910060-57-7.

HENNING WREDE, *Die 'Monumentalisierung' der Antike um 1700*. Ruhpolding: Verlag Franz Philipp Rutzen, n. y [2004]. 57 pp., 78 figs.; 26.5 cm (Stendaler Winckelmann-Forschungen 3). – ISBN 3-910060-58-7.

KSENIJA ROZMAN & ULRIKE MÜLLER-KASPAR, *Franz Caucig. Ein Wiener Künstler der Goethe-Zeit in Italien*. Exhibition catalogue Vienna, Kupferstichkabinett and Stendal, Winckelmann-Museum. Ruhpolding:

Verlag Franz Philipp Rutzen, 2004. 144 pp., 127 figs. on plates; 29.5 cm. – ISBN 3-910060-61-7.

PETER BETTHAUSEN/PETER H. FEIST/AXEL RÜGLER, *Augen unterwegs. Reisebilder - Aquarelle und Zeichnungen von Georg Dehio*. Exhibition catalogue Stendal, Winckelmann-Museum. Ruhpolding: Verlag Franz Philipp Rutzen, 2004. 84 pp., 67 figs.; 29.5 cm. - ISBN 3-938646-00-4.

The first three books have in common that they focus on the history of reception of antiquity from the 16th until the 18th century, the last two record exhibitions held in the Winckelmann-Museum at Stendal. All five works are the result of research carried out and/or stimulated by the Winckelmann-Gesellschaft at Stendal in editing the new studies in this nicely edited series. The association has, despite its former restrictions during the GDR regime, always kept an international character and its publications generally have a high level. As can be expected, a great deal of attention in their works is dedicated to the study and fortune of antiquities and the first three issues as well as the exhibition catalogues are worthy testimonies of that branch of historical research.

Heenes' PhD, written under the guidance of one of the best experts in the field of antiquarian studies, Hennig Wrede (see *infra*), analyses the illustrations in antiquarian works between 1540 and 1687 (dates are explained). Some works were notably untrustworthy because the images had the only goal to illustrate the text or to give credit to the theories presented. A good exception to the rule was the late 17th-century artist Pietro Santi Bartoli who published important *corpora* about the columns of Trajan and Marcus Aurelius, with succinct but adequate comments by Giovanni Bellori. Heenes goes through the publications according to categories like numismatics, gems, sculpture in the round and reliefs, whereas two sections are devoted to Rome and its topography. It is striking how the study of reliefs came late in comparison with that of numismatics (already 14th century, i.a. Petrarca) and statuary. Apart from numerous works which concentrated on these specific categories, there were all-encompassing books, now turning up several times in the run of the study. The scientific development in most cases is slow: a boom of new insights in the early 16th century, a stagnation later in that century, ascribed to the changed mentality following the Council of Trento, and a new input of data and insights in the third quarter of the 17th century. If one counts the numerous works by Bellori and Bartoli, the two of them were influential with their editions (some really *editiones principes* like that on the Column of Marcus Aurelius) and inspired many scholars as late as the end of the 18th century. Heenes does not restrict his study to publications from Italy (and then mainly Rome), but titles from elsewhere are rare (Spanheim, Spon). This might be explained by the fact that woodcuts and/or engravings were scarce in such-like books. In general, the readership of the works discussed was small and mostly limited to scholars. Even the collections' catalogues (coins, gems, statuary) did not yet display the lavishness books of the subsequent period were to show. In the concluding chapters the development of 'archaeology' as a branch of research is sketched; the illustrated books themselves display the development from pure studies of text sources with images to a field of its own, studying classes of finds and reconstruction the realia of ancient society like public functions, religious rituals, sports, gladiatorial games and circuses.

Wrede's *Monumentalisierung* is a slim, but important fascicle that tackles the question why in the years around 1700 the production and publication of numerous richly illustrated works about antiquity increased. Few new finds were made, impulses from other antique areas than Rome were scarce and some of the sculpture collections at Rome were for sale. Wrede observes the concentration on multi-volume works which comprised the re-editions of older studies, sometimes accompanied by new essays and, for all, by rich apparatus of illustrations. These images were not referred to in the (old) texts themselves, but apparently the reader could find his way by looking through bunches of plates to find the object discussed in the text he had under his eyes. The earlier books did not entirely lack illustrations, but the rarity came from the highly esoteric character of these texts, being destined to scholars like the man who had penned down the essay in question (see *supra*). With these new compendia, e.g. those of Gronovius on Greek antiquities, Graevius on Roman antiquities and the all-encompassing enormous work of Montfaucon with more than 30.000 images, the editors tried to find a new readership in the form of noblemen who were currently forming collections of antiquities and for whom the status could be enhanced by a well-filled library, and burghers who were also trying to enlarge their status. The *grand tour* had just become a fashionable phenomenon. Wrede stresses the importance of the Dutch book market in this field, often neglected in studies about the Netherlands and Antiquity. Here the main interest was paid to texts, whereas Italy, France and (more rarely) other European countries produced works in which antiquities played a major role. Wrede's analysis of the illustrations themselves makes clear how these pictures, often copied and/or reworked from previous publications, not seldom estranged objects from their original context to make them 'fashionable' in new ambiences as a 'Statuengarten' or sculpture gallery. Three-dimensional object could be drawn like reliefs or engravings in marble slabs and the motif of an old piece of paper, pinned in *trompe l'oeil* on some background enlarged the suggestion of showing a still older object, studied in a likewise old and hence venerated branch of science. So, these materials got a greater interest for the new readers who could compare them with their own possessions of the kind, exposed in a similar way. All these publications still had the old aura of studying antiquarian *realia* and did not encompass overviews or syntheses about antique culture. Therefore, Winckelmann who could never permit himself the acquisition of such precious works was not blinded by their defects when he started working on a coherent History of art, in which he heavily relied on the plates, but less on the texts of these books. The book is interesting for students of 'Antikenrezeption', book history and the function and manipulation of illustrations in texts.

The books are edited with care, but there are oddities like lacking years of edition, hyphens as the remainder of not putting off the hyphenation programmes in word processors. Heenes' transcriptions from Greek contain quite a few errors. The illustrations are rich in quality and number, so that the works surely belong to the illuminated category discussed by Wrede. And that is also true in the sense of readability and of price: scholars and book collectors alike may gain much profit from them.

This praise also pertains to Décultot's monograph, despite its rather forbidding title. It contains a fascinating reconstruction of Winckelmann's development as a student of all matters in the world via a commonplace-book writer of Things to Be Remembered read in publications regarding antiquity to a writer (literary and scientific alike) of provoking and what seems highly original works. She analyses the numerous volumes of excerpts the Stendal-born scholar made during his whole lifetime and properly calls them his hand-written portable reference library. Most are from the German years up to 1754, but at Rome, according to him the place to study the real thing, he also compiled files of quotations and notes to be used. Décultot makes clear in her book, published in French in 2000 and now elegantly translated by Wolfgang von Wangenheim and René Mathias Hofter, how citations and paraphrases of these excerpts were inserted into Winckelmann's work, so that the preparation of the mind also formed the basis of his creative writing process, a thing he probably not had yet thought of when he started his first book at the age of 15. We must not, so it is argued, see Winckelmann as a plagiarist or a handyman: he follows, for instance, one of his great examples Montaigne who had proudly said that he would insert sentences taken from elsewhere, but not attested, in order to recreate these works. And had Pliny the Elder not been an excellent excerpter of thousands of books? Picking up phrases and ideas was the start of a process of cooking a new soup or making a fine cognac: these texts were earned and prepared for the new concoction. Décultot masterly analyses the choice of texts read by Winckelmann, the use of specific elements or details out of them and the way he inserted the ideas distilled from his examples or even opponents into his own works. So, Winckelmann gradually became a player in the field of the illuminated world who would influence French and German scholarship alike. Décultot asks the right and imperative questions, some of which seem too obvious, but result to be crucial, e.g. why to highlight *Greece* in a time the land was hardly known and the study of Greek had made a steep decline. It had been mainly English scholars and travellers who had pointed at the country's antiquity and virtue of model Shaftsbury had underlined the autarky and freedom of the Greek, and all know how much Winckelmann, the former humble servant of German noblemen, would stress these points. Why Winckelmann decided to write a history of *art*? This stemmed first of all from the aspiration to become a painter and then a historian. From Voltaire he had learned that art is an essential aspect of history and hence he made it autonomous. Winckelmann's (lack of) historicity, then, would be attacked by his German philological colleagues. Among other aspects highlighted by Décultot are the style of Winckelmann's writing: he had the ambition to set up a new language for a new scientific branch and introduced new words, mainly taken from French like *Drapperie* for drapery and gave new meanings to old words or coined terms, for which the *stille Einfalt*, *Stand* and *edle Grösse* are the most important ones.

The last pages are dedicated to the question how these notebooks came to France: they were simply stolen by French troops and did not belong to the works of art transported to France after the Treaty of Tolentino (1797). Décultot does not plea for a restitution (claimed by Germany in the early 19th century and in 1943), but concludes that they form a supranational treasury composed by a man who was no longer a German but a European. I must stop my *überschwengliches Lob*, to speak with old Winckelmann, and conclude by saying that this is best book on Winckelmann I read in many years.

The last two books from the Stendal ambiance are exhibition catalogues from the Winckelmann-Museum. Its exhibitions seek a relationship with either the name giver or related topics like Italy seen by Germans. In these two catalogues travellers are highlighted. The first one presents the rather unknown Caucig (1755-1828). I think that he was no great and original artist, but some of his drawings and watercolours are fine and grasp the atmosphere of Rome and its *campagna* well. The multinational man from Gorizia (Croatian-Italian-German) was at Rome from 1780 until 1787. Some drawings were made in Venice and its surroundings, but most material reflects his stay at Rome. The catalogue is split into categories of subjects: vedute, ancient objects, drawings after Raphael, and historical scenes. The second issue is dedicated to an important art historian, Georg Dehio (1850-1932) who published numerous volumes on medieval sacral architecture, some of which still used as the 'alte Dehio'. Here we see his artistic reactions on the visits of (few) antique and (many) medieval monuments both in Italy and Germany. In the short essays added to the splendid illustrative material themes like the scientific excursion and Dehio's life are addressed in an accessible way. Both book are well-cured publications and have a quality that goes beyond the simple exhibition catalogues, the first being a sort of 'Werkverzeignis', the second presenting an important 'Gelehrtenbiographie'.

Eric M. Moormann

H. Kyrieleis (Hrsg.), *Olympia 1875-2000. 125 Jahre Deutsche Ausgrabungen* (Internationales Symposion, Berlin 9.-11. November 2000). Mainz am Rhein: Verlag Philipp von Zabern, 2002. 376 pp., 117 col.-, 182 b/w figs., 1 folded plan; 30cm. – ISBN 3-8053-2989-X.

Pierre de Coubertin may have been the successful founder of the modern Olympic Games; but it was the Germans who excavated Olympia and by doing so inspired Pierre to come up with a competitive French initiative. In 2000 the German Archaeological Institute organized a symposion to commemorate the fact that 125 years ago German excavations started in Olympia; and three years later it published the twenty-three contributions

in the volume under review. It is a tribute to the magnificent craftmanship of the publisher. Lay-out, illustrations, maps: the quality is impressive and a pleasure to the beholder.

On the whole one can be equally impressed by the quality of the papers. Four of them (von Bruch, Kalpaxis, Klinkhammer, Sösemann) examine the relations between archaeology, Olympian above all, and late 19th century power politics and arising nationalism. It is interesting to see how Bismarck cared more about government-sponsored scientific projects which could be immediately useful to the German 'Reich', than about cultural enterprises like the excavations in Olympia. It is Wilhelm I in person who energetically and generously supported scholarly and cultural projects like the *Monumenta Germaniae Historica* and the Olympic excavations; and it is Ernst Curtius who from ca 1850 was the '*spiritus rector* der Olympia-Grabungen' (10) and also designed the treaty with the Greek authorities on the basis of which the finds were to stay in Greece and not to be transferred abroad, i.e., to Berlin. This was quite something given the earlier export of Pergamene antiquities to Berlin, the permission given in 1829 to the French army to carry some stray finds from Olympia to Paris and the rather disappointed remarks of the German Kultusminister Falk in 1873, who complained that Germany apparently was forced to yield the major benefits of the excavation to Greece; but whatever the fate of the excavated objects would be, Bismarck remained disinterested: when the excavators sent a telegram about recent finds his reaction was: 'Wozu darüber ein Telegramm?' (15).

For those visiting the wonderful site of Delphi in a somewhat euphoric mood it is a sobering experience to read in Klinkhammer's paper that the permission to dig in Delphi was given to France in exchange for a reduction of dues levied on Greek raisins exported to France! S. Marchand examines A. Furtwängler's experience in Olympia. In a way he made a virtue out of necessity: failure to find truly exciting pieces of great sculpture like the Parthenon friezes or the Pergamene material, led German archaeologists to focus on the numerous small finds found in Olympia and to start categorizing them both typologically and chronologically, though nostalgic feelings about great works of art and a Winckelmannian approach towards archaeology continued to please them. M.'s provocative thesis 'that modern Mediterranean archaeology ... is the product not of big finds, but of big disappointments' (148) is attractive, provided one excludes the current 'wave' of survey-archaeology from her 'Mediterranean archaeology'.

Of the remaining eighteen papers four are devoted to non-Olympian themes. E.R. Gebhard and C. Morgan write on the origins and beginnings of the Isthmian Games, S. Miller on the earliest stadium in Nemea and C. Rolley on aspects of the history of Delphi between 1500 and 575 BC. Miller brings the Nemean situation to bear on Olympia. 'Nemea' confirms the view that in Olympia 'the first track began from the area of the Altar of Zeus' (249); 'Nemea' further suggests that the track may have been connected with the Pelopion (the equivalent of the Nemean shrine of Opheltes) rather than with the Altar of Zeus. If we add here Melikertes buried on the Isthmus we could have a funeral 'triad' Nemea-Olympia-Isthmia. However, Gebhard emphasizes the proximity of the first stadium at Isthmia to Poseidon's altar, whereas a connection between the oldest Olympic event (the stadion) and the altar of Zeus, irrespective of when we date the beginnings of the Games (776 or ca 700 BC), is commonly accepted. Did funeral games precede the Zeus-games in Olympia; or was there a long break between the 'funeral period' and the 'Zeus-period' in Olympia? Whether any certainty will be reached in these matters is dubious; speculation reigns supreme.

Heilmeyer briefly reflects on the ca 6000 early votives from Olympia; ca 4000 bronzes and 2000 terracottas (animals; chariot(eer)s); on the assumption that the extant material represents 10% of all votives he suggests that annually 200 to 250 votives were dedicated over a period of ca 350 years. He concludes that such modest numbers fit the 'bäuerlich-regionale' context of early Olympia but he adds that this does not exclude the traditional date of the first Olympic Games (776 BC). Incidentally, H. writes that 'im Ganzen der kunstgeschichtliche Maßstab für die griechische Frühzeit ausgereizt scheint (zu sein)' (58). Irrespective of whether we accept 776 or prefer with Mallwitz a date ca 700 BC (see Hemelrijk's review in *BABesch* 77, 2002, 192), it seems unlikely that the votives dedicated in Olympia, especially the tripods, were victor's prizes. The Olympic program started with the stadion and chariot races; the number of victors was too small for it to account for the dedication of 200 votives on an annual basis and of 800 on a quadrennial basis. As a result one cannot but agree with Himmelmann who in his paper on early votives in Olympia concludes that the large number of tripods and horse figurines are to be interpreted as dedications of 'Besitzsymbole' (93) rather than as the equivalents of prizes won in games (see in the same sense D.G. Kyle, Gifts and Glory: Panathenaic and other Greek athletic prizes, in J.Neils (ed.), *Worshipping Athena, Panathenaia and Parthenon*, Madison 1996, 106-136, especially 111; that some tripods were prizes won elsewhere and dedicated in Olympia, as Kyle suggests (cf. also Z. Papakonstantinou, *Nikephoros* 15, 2002, 63-64), is possible but not very probable; it requires too much cumbersome transport. If one assumes that prior to 700 BC there were annual games with material prizes, some tripods may have been dedicated prizes of Olympic victors).

On the whole the Olympic Games surprisingly play a minor role in this volume. Instead we are treated to two rather antiquarian articles on 'Bauforscher' in Olympia (Herrmann) and the Zeus temple in the 19th/20th century (Koenigs), to an article on technical observations on the sculpture of the Zeus temple (Triant), a study of new experimental archaeological methods used in Olympia (Borbein), and contributions on two small sites in the surroundings of Olympia and the excavations in Elis. Siewert publishes an interesting Eleian decree awarding citizenship to two foreigners from Sparta and Euboia, respectively; moreover, they are entitled to participate in the Eleian *epoikiai* in Sparta and Euboia, i.e., in 'colonies' of Eleians in those areas (cf. also J. Taita, *Dike* 4, 2001, 39-85, mentioned by Ph. Gauthier in *BE* 2003, no 323). Apparently Sparta was not a sort of closed society, inimical and inaccessible to foreigners.

Finally, U. Sinn studies the few honorary inscriptions for the priestess of Demeter and her *prohedria* in the stadium. He points out that in late antiquity the honorary seat remained more or less intact; in the same way many parts of the Nymphaeum of Herodes Atticus, whose wife Regilla also was priestess of Demeter, were saved from being built into early Byzantine constructions. These observations serve as arguments for Sinn's overall thesis that the Olympic Games may well have gone on after 393 AD, when Theodosius is held to have proclaimed the end of the Games and the pagan cults in Olympia. Additional arguments advanced by Th. Völling concern the stadium which remained intact notwithstanding the steady expansion of an early Byzantine settlement in the precinct, and the continuation of other Olympic and isolympic Games celebrated 'in elischer "Lizenz"' in Asia Minor and Syria after 393 AD. The jump from archaeological evidence to major historical conclusions seems rather audacious here. The stadium probably continued to be used but this tells us nothing about the context of what was going on there. In spite of the inverted comma's the expression 'in Lizenz' is misleading to the extent that other Olympic Games (see the list apud Farrington, *Tyche* 12 (1997) 15-46) imitated the Eleian Olympics but did not necessarily do so after having received official permission from the Eleians. All we can say is that the stadium was not over-built, like the rest of the precinct, by the early Byzantines, and perhaps continued to be used. But we need better evidence for the thesis that the quadrennial Olympics continued to be celebrated after 393 AD. Archaeological sources occasionally are pretty mute, in spite of ingenious efforts to make them speak in unequivocal language in favor of grand views. Truly new light on the history of Olympia is shed by the publication of a large number of bronze inscribed tokens found partly in Elis, partly in Olympia: see *BE* in *REG* (2003) no 154. These tesserae may well provide welcome evidence for Olympia as a permanent center for the administration of the southern part of Eleian territory, far away from Elis itself. Life did not stop after the end of an Olympic festival in a rather isolated Olympic precinct.

H.W. Pleket

D. De Bernardi Ferrero (ed.), *Saggi in onore di Paolo Verzone*. Rome: Giorgio Bretschneider, 2002. 286 pp. 280 ills.; 30 cm (Hierapolis: Scavi e Ricerche IV). – ISBN 88-7689-201-x.

P. Verzone lived from 1902-1986 and taught the history of architecture and the art of restoration at the Technical University of Istanbul and the Polytechnical School in Turin. In 1957, during his stay in Istanbul, he initiated the Italian excavations in Hierapolis which have been so eminently successful and are still going on. In a moving preface it is pointed out that some months before his death V. specifically rejected the idea of friends and colleagues publishing a Festschrift in his honour. Some members of the Italian excavation team have now published the book under review on the occasion of the centenary of his year of birth. Whether the deceased would have liked the decision to dedicate these Saggi to him, we will never know; there are, unfortunately, no unequivocal connections with afterlife.

The editor contributes a long piece on Hierapolitan architecture and decoration in the Flavian period. On p. 31 the reader finds a splendid photo of the colossal sarcophagus of Titus Flavius Zeuxis, the merchant, who sailed 72 times round Cape Malea on his way to Italy. The monument and its location near one of the city-gates testify to the wealth-generating character of Zeuxis' business. Small wonder that more than hundred years later a merchant in purple and/or purple-dyed garments apparently was wealthy enough to be admitted to the urban council. A map of the site at the back of the book shows how rich the harvest in excavated buildings and gates has been. Various contributions are devoted to specific buildings.

A. De Bernardi examines the ruins of the octagonal martyrion and argues that elements of Euclidean geometry were applied in the building (147-178; building no 21 on the map). M.L. De Bernardi studies an extramural church cum-therms (265-282; nos 15-22 on the map). The urban cathedral is the subject of G. Ciotta/L. Palmucci's contribution (179-202; no 24 on the map), whereas N. Gullino focuses on the church north of the theatre (203-216; no 25 on the map). G. Bejor discusses the stratigraphy of the hyposcaenium in Hierapolis' theatre (45-50; no 10 on the map). 'Geometrie formali per il rilievo del teatro' (51-68) is the theme of F. Ceresa's paper, with beautiful photos of the building and extremely sophisticated and complicated drawings of the geometrical patterns discerned by the author behind the architecture of the building. Similarly technical is A. Spanós report on the various systems used to map out and measure the dimensions of the urban site. All these papers may be of interest to heavily specialized archaeologists but those interested in the problem of the overall development of the city through the first six/seven centuries AD are not much helped by them; and the reader gets no idea about the actual size of the city *intra muros* and the size of the population which may have lived there.

Slightly more accessible, at least to this reviewer, are papers on the marble used in the city's theatre (D. Attanasio/P. Pensabene; 69-86) and on various aspects of the travertine sarcophagi found in the northwestern necropolis (chronology; way of production; H. Vanhaverbeke/M. Waelkens; 119-146). V./W., using various dating methods, assign a relatively small number of sarcophagi to the first half of the 2nd century AD and discern a peak period later in that century; they conclude that the former period was 'economically less favourable'. This is too facile. Flavius Zeuxis' sarcophagus is now firmly dated to ca 100 AD and in itself testifies to flourishing relations between the city and other parts of the Empire. Possibly the other necropoleis were intensively used around 100-130 AD so that V./W. handle a pseudo-problem. Anyhow, statements about the relation between the number of sarcophagi found and the economic vicissitudes of the city can only be made after careful analysis of the finds in all three necropoleis. Attanasio/Pensabene combine epigraphical and petrological expertise in showing that most Hierapolitan marble originated in the relatively nearby quarries of Thiounta and Aphrodisias. The famous Dokimeion

marble is exceptionally rare. Six sarcophagus-inscriptions mention it - an insignificant minority among dozens of such texts - and the Dokimeion marble mentioned in inscriptions engraved on architraves of the theatre is interpreted by the authors as being used for the revetment of walls rather than for the production of architraves or columns. These 'marble-articles' have, at least, the advantage of shedding some light on the economic relations of the city. Ubiquitous problems with land transport possibly explain the scarcity of Dokimeion marble; Dokimeion is not precisely close to Hierapolis!

P. Arthur gives an impressive survey of what on the basis of archaeological evidence happened in Hierapolis 'fra Bisanzio e i Turchi' (217-231). In the 6th/7th century AD decline set in, caused or reinforced by severe earthquakes; the agora changed into an agricultural plot and the inhabitants continued to live amidst the ruins of public buildings; some sort of miserable settlement was the successor of the place once described by Philostratos as one of the most flourishing cities in Asia Minor. In subsequent centuries the city became a bone of contest between the Byzantine emperors and the advancing Turks (Selsjuks). In the late 12th century Hierapolis is said to be a *diruta civitas*. Incidentally, A. writes about hot baths cum-gymnasion in the southern part of the city; on the map, however, the building (no 11) is simply called 'terme'. Is this carelesness or does the author implicitly refer to the late-Roman habit of using the words *gymnasion-balaneion-aleipterion* indiscriminately to denote the gymnasium?

T. Ritti's contribution (87-107) emphasizes the importance of Hierapolis and its close neighbour Laodikeia-on-the-Lykos as junctions of two major roads: one running from southeastern Anatolia via the valley of the Meander towards the Aegean coast (Ephesos), the other leading up to Lydia's capital Sardis and further northwestward towards Pergamon via Philadelphia and Thyatira. Hierapolis was an important station on these roads; and for its export it heavily depended on the road to Ephesos. Milestones provide indispensable evidence for the building and repair of ancient roads, and for the distance between various cities situated along those roads. Ritti publishes two new milestones: one from the northern road towards Lydia, the other from the road coming from the southeast; both were found one mile away from Hierapolis. The former has two superimposed texts; the oldest refers to roadwork implemented during Frontinus' governorship under Domitian (84/85 AD), the younger dates from Nerva's reign (97 AD). The second milestone was erected during the reign of Gordian III and dates from ca 240 AD. Both texts testify to the constant interest of the imperial government in the maintenance of important roads, perhaps for military reasons but clearly with an important spin-off for the regional economies.

Finally, E. Miranda (109-118) publishes two complete acclamations painted in red on semi-columns; a third one is too fragmentary for it to yield any sense. The two complete ones are acclamations for the emperor Justinian, with the curious rendering of the Latin formula *tu vincas* in Greek letters. M. pays due attention to the increasing importance of acclamations both for urban/provincial dignitaries and emperors in late Antiquity. An excellent bibliography will be useful for those interested in this phenomenon. In a way it is a pity that new inscriptions are 'buried' in a Festschrift which will not be read by many. *SEG* LII, due to appear in the spring of 2006, will make them more accessible.

H.W. Pleket

R. Wünsche - F. Knauss (Hrsg.), *Lockender Lorbeer. Sport und Spiel in der Antike*. München: Staatliche Antikensammlungen und Glyptothek München, 2004. 503 S. - ISBN 3-933200-09-01.

It is often said that the Germans are excellent in organizing things. This bulky volume (2.5 kg.!) provides convincing evidence for the correctness of this *dictum*. On the occasion of the Olympic Games, held in Athens in 2004, the Museum of Antiquities in Münich, assisted by twelve other German museums and one individual (P.R. Franke, em. prof. of Ancient History at Saarbrücken and a renowned numismatist), organized an exhibition around the theme indicated in the title of this book: 282 objects (180 vases; more than sixty terracotta- and bronze figures; equipment (strigils, diskoi, etc.) and coins) were put on show. On pp. 472-501, the reader finds a brief catalogue of these objects, with concise descriptions, photos and bibliography. With typical and truly laudable thoroughness the organizers have added more than 450 pages of prose, written by a group of thirteen scholars and illustrated with a great many magnificent photos of objects depicting athletic scenes. These pages amount to an up-to-date history of Greek sport, 'Spiel und Spass' included (Ch. 6; pp. 380-440). After a brief introduction on sport in the ancient world in general (Orient, Egypt), and in the Greek world in particular (pp. 10-43), five chapters follow. In chapter 2 (pp. 44-79) the athletic contests are examined, with special reference to the classical period with the 'Big Four' (*periodos*) and the Panathenaia and a corresponding neglect of the many games in other periods and cities. On pp. 66-69 F. Knauss does pay some attention to the ubiquity of athletic contests in the Greek-speaking world in Hellenistic-Roman times, but only three and a half pages surely are disappointing. Chapter 3 (pp. 80-241) deals with the various athletic disciplines in great detail. Here solid interpretation of the available written and archaeological sources is combined with what modern experiments have shown, especially concerning the long-jump and the function of the halters, and wrestling techniques. R.Wünsche compares the Theban boxer Kleitomachos, who is held to have practised sexual abstinence before his matches, with the famous Cuban boxer and Olympic champion Felix Savon, who had 'verinnerlicht die Lehre von der Enthaltsamkeit vor Wettkämpfen' (pp. 146-147) and whose wife was converted to the same doctrine by sport-psychologists. Fortunately, S. Lorenz (p. 275) points out that this doctrine is not generally accepted nowadays. In chapter 4 (pp. 242-335) various authors discuss themes 'Rund um den Sport': the gymnasion with its paraphernalia like strigils, swimming pools, water basins and its functionaries; prizes, both material and immaterial, with welcome commentary on the

irrelevance of a concept like 'amateurism' in the study of Greek athletics; women and sport and statues of victorious athletes. A fifth chapter is devoted to 'myths and sport' (*inter alia* Atalante; satyrs; Eros).

Needless to say, where so much is offered there is room for debate. As to the origin of sport, there is a generally shared view in this publication that sport and play are innate qualities. Why the Greeks subsequently developed such an intense institutionalized system of contests, with strict regulations and umpires - a system which clearly distinguishes the Greek world from Near Eastern societies (so, correctly, Knauss on p. 23) - is a moot question. B. Kaeser (pp. 24-38) rightly rejects a cultic origin. He comes close to Marc Golden's pragmatic and recommendable view: 'Greek sport seems very religious ... Is it really exceptionally so in a society in which every part of life was pervaded by cult activity and invocations of the gods?' (*Sport and Society in ancient Greece*, Cambridge 1998, p. 23). K. also rejects a close relation between war and sport. It is true, an athletic *agōn* is not literally the same as war; contest and battle are not 'ähnlich' (p. 25), but K., perhaps too easily, overlooks certain parallels between the two. *Agōn* denotes both contest and battle; on an ideological level there is a distinct overlap between warriors and athletes; they both faced 'toil' (*ponos*) and danger (*kindunos*); their *arete* is the same. Pindar compares the glory of and praise for successful soldiers with the qualities of athletes, as pointed out by S. Lorenz in this volume (p. 213), who elaborates the parallels between the two categories and examines various para-military athletic disciplines (pp. 213-223). War and sport are ideologically two sides of the same medal. The values of the boxer Agathos Daimon ('the wreath or death') have their parallels in an epitaph of an hoplite, who 'wants either to win or to die' (L. Robert, *Opera Minora Se!ecta* VI, Amsterdam 1989, pp. 334-337 and 424-425). This is not to say that all or most athletic disciplines offered a good preparation for the battlefield. Running, javelin-throwing and the heavy events may well have been useful, both physically and mentally, for hoplites engaged in man-to-man fighting or roaming over the battlefield. Sport and war are comparable activities characterized by intense competition, fighting spirit, the quest for victory and glory, and above all, their ubiquity. Why on earth it is especially the Greeks, who developed such a highly competitive and 'agon-prone' political system, is a point we can make rather than explain. When war more or less stopped for the Greek cities under the Roman empire, the 'fighting' continued, this time about prestigious city-titles and athletic victories; the war continued, without arms ('War minus the shooting' as D.M. Pritchard recently wrote in an, as yet, unpublished essay, borrowing a phrase from G. Orwell).

On p. 66, Knauss correctly contrasts the *hieroi stephanitai agōnes* (sacred crown games) with the so-called money games (*agōnes chrematitai* (or *thematteitai* or *thematikoi, thema* being a money prize)). As an example of the latter, he adduces the Athenian Panathenaia, where large numbers of amphoras, filled with oil, were awarded to the victors. However, on p. 61, those same Panathenaia are called a 'panhellenisches Fest', with a program largely copied from Olympia and Delphi. In fact, we have a sacred crown game in which, in addition to the crown, material prizes were awarded. K. also adduces the Argive Heraia, where the victors received a bronze shield; it is precisely this contest which became part of the *periodos*, i.e., the top group of sacred crown games and thus is exactly the opposite of a money game. Both in this section and in Knauss' paragraph on pp. 287-293, there is hardly a reference to the great many *thematikoi agōnes* in which the prize was a talent (6000 dr.), a half talent (3000 dr.), or 1000 dr.

On pp. 142-143, R. Wünsche considers the famous wrestler Milon of Kroton as an 'Aufsteiger aus kleinen Verhältnissen'. The marriage of Milon's daughter with the physician Demokedes and the latter's payment of a considerable sum of money for that privilege, are supposed to show that Milon was not an aristocrat; aristocrats do not marry off their daughters to a simple *demiourgos*, nor would they have accepted money. However, Demokedes was not a simple 'craftsman' - what many ancient doctors indeed were! - but had grown rich on medical fees earned from both Greek cities and the Persian king; by his marriage he wanted to improve his status: he married the daughter, not of an upstart, but of a man who 'had long been part of a recognized elite' rather than a nouveau riche like the doctor himself (cf. D. Pritchard in D.J. Phillips/D. Pritchard (eds.), *Sport and Festival in the ancient Greek world*, Swansea 2003, p. 297).

In his otherwise very interesting essay on ancient boxing (pp. 158-171), Wünsche seems to me to underestimate the roughness and bloodiness of this sport in antiquity. Satirists like Lucilius (quoted by W.), exaggerated the roughness but certainly did not 'invent' it. On pp. 169 and 453 (note 17), W. suggests that in inscriptions it is often said that boxers remained 'uninjured' ('unverletzt'); he adduces no 569 in L. Moretti's list of *Olympionikai*, the boxer Kleoxenos, who is said to have won the finals *atraumatistos*, but fails to add that this is the only victor in the entire list, who carries this epithet: clearly an exceptional, fully atypical case! True, some exceptionally intelligent boxers may have specialized in avoiding heavy blows but the constant 'flow' of blood and misery, connected in the sources with boxing, cannot be ignored so easily (cf. the brief paragraph by S. Lorenz on pp. 275-276, who has an open eye for the injuries of boxers). Finally, a note on section 27: the notes in the text do not correspond with those on p. 459. The above in no way is supposed to detract from the value of this comprehensive survey of the history of greek sport.

H.W. Pleket

ULRIKE WINTERMEYER (et al.), *Die hellenistische und frühkaiserzeitliche Gebrauchskeramik auf Grundlage der stratifizierten Fundkeramik aus dem Bereich der Heiligen Strasse*. Mainz am Rhein: Verlag Philipp von Zabern, 2004. 503 pp., ills.; 30 cm (Didyma. Ergebnisse der Ausgrabungen und Untersuchungen seit dem Jahre 1962, 3, 2). – ISBN 3-933200-09-1.

Considering the state of the art of Hellenistic and Roman pottery studies in the eastern Mediterranean, the publication of any monograph, no matter its detailed content and quality, should be considered as a happy

event. Our hearts are filled with even more joy in case the monograph in question covers the ceramic material of a town or region which was previously not documented, or only published in preliminary formats. A double hooray for U. Wintermeyer's persistence!

When archaeological activities were resumed by the DAI at the Apollo Temple of Didyma and its surroundings in the early 1960's, next to nothing was known of pottery as a find category. Taking the overwhelming architectural record of the site and the traditional research agenda of the discipline of classical archaeology into account, this should come as no surprise. Doing pottery at such sites is not easy, and the publication of Wintermeyer therefore deserves credit in this respect. The work should also be considered very much part of her life, having started processing the pottery in 1979, submitting the manuscript about 10 years later, which was ready for print in 1991, but the actual publication of which for many reasons, mainly known to god, actually only happened in 2004.

The aims of the work, however, have withstood the test of time: establish the typology of excavated pottery, link the chronological development of the wares to the stratigraphical build-up of the site, provide chronological criteria for the architectural record, and improve our knowledge on the pottery common in this part of the eastern Mediterranean in general.

The essential materials were provided by the archaeological exploration of the Sacred Road linking the Apollo sanctuary to the town of Miletos in 1977 and 1982-1983, with an active involvement of the author. The excavations provided an interesting sequence of four or perhaps five construction phases of the Road, dating between the end of the 6th century BC and ca 100 AD. The first part of the book consists of a presentation of the Hellenistic and early imperial pottery associated with this excavation. The second part is a typo-chronological study of finds made since 1966 in the excavations at Didyma, including other than the Sacred Road material.

To be clear, Wintermeyer's '*Gebrauchskeramik*' is not entirely the same as what the Anglo-Saxon tradition considers as common wares. In this case, the author refers to all her ceramics as functional artefacts and therefore includes table wares and toilet articles in her overview. Even if this aspect is not entirely traditional from a terminological point of view, the fact that an integral overview of most, if not all, attested ceramic categories is made available in publication certainly deserves recommendation.

The basic classification of the material applies a locally developed system of sorting fabrics, using the following criteria: clay composition, colour, hardness, technology and other, secondary features, coupled, in a second instance, with general functional identifications (cooking vessels, kitchen wares, table wares and toilet articles). In this way, 10 different fabrics were distinguished for the Hellenistic to early imperial period, based on the simple logic that a pot was intended to perform a function, and that the potter was aware of the qualities and restrictions of particular clay mixtures for a vessel to perform this or that function. In general, I experienced this system as fairly Didyma-specific, which implies that third parties may find it difficult to control the resulting classification or use the material for other purposes, if they should wish to do so. The attention to the colour of the fabric is obvious, but to my feeling broad categories such as '*gelbe*' or '*rote Tonwaren*' are not very useful, as these colours can hide many other important fabric features. To my knowledge, the fabric classification system introduced by D.P.S. Peacock (Ceramics in Roman and medieval archaeology, in: D.P.S. Peacock (ed.) *Pottery and early commerce. Characterization and trade in Roman and later ceramics*, London 1977, 21-33) is simply the best, for any period pottery, with a wonderful application in, for instance, R. Tomber and J. Dore, *The national Roman fabric reference collection* (MOLAS Monograph 2), London 1998, representing the standard overview of pottery fabrics attested in Roman Britain. Working from such a platform makes things plain and simple for anyone and the reader less dependent on Didyma-specific information. By the way, the use of Pergamene and Samian sigillata for respectively eastern sigillata A and B is not advisable any more since K. Kenyon devised the actual classification system of eastern types of sigillata at Samaria-Sebaste in 1957 (K. Kenyon, Terra Sigillata, in: J.W. Crowfoot, G.M. Crowfoot and K.M. Kenyon, *The Objects from Samaria* (*Samaria-Sebaste* 3), London 1957, 281-288).

The discussion of the provenance of the wares, I consider more problematic. The reader simply has to accept the fact that mineralogical analyses defined two of the cooking wares, '*Glimmerware*' and '*Harte Helldunkelgraue Tonware*', as local, while the hard evidence is lacking and the argumentation is mainly based on '*der statistischen Häufigkeit ihres Vorkommens*' (without statistics, however), whereas the author indicates many other sites where these wares were also attested. Exactly these types of wares are recently considered as forming part of much wider networks of exchange (J.M. Gurt i Esparraguera, J. Buxeda i Garrigos and M.A. Cau Ontiveros (eds.) *LRCW* I. *Late Roman coarse wares, cooking wares and amphorae in the Mediterranean. Archaeology and archaeometry* (BAR International Series 1340), Oxford 2005). The conclusion that most, if not all of the ceramic assemblage, including the table wares and amphorae, is to be considered local (possibly including Miletos) is, in my view, not sustainable, based on the limited argumentation put forward by Wintermeyer. A better fabric classification system, and a more up-to-date bibliography with comparanda, would have made the deconstruction of this part of the book a feasible exercise.

The stratigraphical analysis is detailed and consistent, allowing a good overview of the relative building up of the different street levels and associated structures alongside the Sacred Road. The text is supported by detailed plans and sections, which makes this archaeological complex intelligible and controllable for third parties, also and perhaps mainly for those not involved in the work at Didyma. A summarizing overview applying the logic of the Harris' matrix (E. Harris, *Principles of archaeological stratigraphy*, London 1989) could have represented the cherry on the cake, while allowing Wintermeyer a more schematic overview of the relative sequencing of her many deposits.

The inventory of the pottery found within these deposits is systematic. The three catalogues and their respective subdivisions provide a comprehensive over-

view of the pottery contained in each of the stratigraphical units. In this way, the catalogued pottery can be considered as ceramic assemblages or building blocks with internal consistency allowing the development of a relative chronology.

The nature of the deposits, being mainly fills, implies, however, that most ceramic material is in, at least, secondary position. This condition imposes logical limitations to the interpretation and usefulness of the ceramic assemblages, in the sense that these need to be regarded as open as possible. Yet, Wintermeyer proposes associations between the different street substrata and the deposits from the structures along the road side, mainly based on a comparable ceramic content. Of course, the quality of this association is dependent on the classification system applied to the material, which at least from a fabric point of view should be approached with some caution. Applying even the more simple techniques of pottery quantification, such as count and/or weight (C. Orton, P. Tyers and A. Vince, *Pottery in archaeology*, Cambridge 1993, 166-181), could of course have provided further sustaining argumentation, let alone open the work further to a non-Didyma audience.

Placing the attested assemblages in an absolute chronological framework is the next, oftentimes difficult, step. The quality of the dating of the material and assemblages is partly dependent on the availability of a variety of internal dating criteria, in this case mostly represented by a small collection of coins and stamped amphora handles. The amount of this material is very limited and its interpretation not unproblematic as, for instance, the issue of the circulation patterns of coins is not sufficiently resolved in the eastern Mediterranean, plus also these objects were found in secondary position. The chronology is therefore mostly dependent on the application of external dating criteria, or using typochronological comparanda from other sites in order to establish a chronological framework. The Didyma-specific classification does not make comparisons easy, however. The framework of reference seems also too limited, not only considering the bibliography, but also the fact that standard typologies available for, for instance eastern sigillata A and B (J.W. Hayes, Sigillate orientali, in: *Atlante delle forme ceramiche* II. *Ceramica fine romana nel bacino Mediterraneo (tardo ellenismo e primo impero)*, Rome 1985, 1-96), were not applied.

The same logical shortcomings are to be found in the second, typological part of the book. Although this section presents a very elaborate overview of the Hellenistic to early imperial pottery found at Didyma, its usefulness for third parties is restricted by the Didyma-specific classification system and the restricted framework of comparanda and literature. The amphorae of the eastern Mediterranean, for instance, are admittedly a difficult and developing field of study, but grouping most, if not all of these vessels under the heading of '*gelbe Tonwaren*' seems too general an approach. Considering current possibilities in printing technology it is a pity that the illustrations are not integrated with the text, which would have made this chapter a more practical unit.

The monograph closes with a contribution on the stamped amphora handles by G. Jöhrens.

On the whole, considering the tradition of research at Didyma, the study of Wintermeyer should be welcomed. Ceramologists working in the eastern Mediterranean will find it useful to start comparing their material to this extensive and elaborate collection of material. The main question arises when considering a non-ceramological audience. Works of this nature confirm the technicalities of the topic and the tendency for other archaeologists, let alone ancient historians, to leave aside ceramic materials from their perspectives on antiquity. Considering the central role of pottery in daily life in antiquity and its corresponding important versatility in archaeological studies, the lack of integration of the Didyma material in wider contexts or approaches is therefore regrettable.

J. Poblome

CONRAD M. STIBBE, *Trebenishte, the Fortunes of an Unusual Excavation*. With a contribution by Rastko Vasić, Roma: «L'Erma» di Bretschneider, 2002. 149 pp., 100 figs; 25 cm (Studia Archaeologica 121). – ISBN 88-8265-212-2.

About the author: Dr Stibbe, by now an octogenarian, is the grand old man of 6th-century BC Laconian art. After having finished an impressive series of volumes in which he treated the complete Laconian pottery, he dared into the terrain of Laconian bronzes in 1992. Dared, because it is a dangerous place, where anything goes and authors fight out heroic battles on styles and widely, even wildly, varying dates. Since then, development of his ideas has gone rapidly, in pace with his prolific production of articles and books. To cite only one instance: what in his first articles was the Paestum-Sala Consilina Group of bronze hydriae, has now been baptized the Gitiadas Group, because in *BABesch* 75 (2000), he argued that the builder of the temple of Athana Chalkioikos, Gitiadas, was the same who made the krater found in Vix; and later and elsewehere, that he made the hydriae in a different phase of his carreer. The board of *BABesch* has had the good idea to publish these articles again, in one volume.

About the book: The name Trebenishte will ring a bell for most classical archaeologists: famous, but what for, again? It becomes immediately clear when one sees the dust jacket of this volume: a smaller version of the Vix krater, i.e. a bronze volute krater, on a stand or hypokraterion, from tomb VIII, and now in Belgrade, National Museum. History has not been fair to the tombs of Illyrian princes in Trebenishte, on the northern shore of Lake Ochrid, in what is now officially the Former Yugoslav Republic of Macedonia: the ever changing frontiers on the Balkan have dispersed the finds to the museums of Ochrid, Belgrade and Sofia; private collections have also taken their share. Publications of the excavations of 1918, 1930-1933, 1953-1954, and 1972, if any, are widely dispersed over periodicals that are obtainable, if at all, only with the greatest difficulty. It was therefore a good idea of the author to write this modest volume in order to give an overview and reproduce at least every excavation map and grave plan ever published. It was emphatically not his intention to publish everything ever found, but to give the reader an idea of the finds and to facilitate further (literature) study.

In all, 56 graves, rich and poor, have been excavated over an area of about 500 m. The rich graves all belong to the 6th century BC, whereas the poor tombs as an ensemble cover a three-century period between the 7th and the 3rd centuries BC. In chapter VII, an overview of contents and typology of the graves is given: imported goods from mainly Laconia (five bronze pieces) and Corinth (nine), locally made goods and goods of mixed style betraying local preferences. Predictably, the author is most interested in the imported bronzes and shows them on a series of 19 figures.

How did the Laconian bronzes get to Trebenishte (and beyond)? The author follows the route with the help of relevant finds between the two places and beyond: by sea via Tiros, Ermioni, Piraeus, and between the mainland and Euboia (the map fig. 52 on which this is shown is a second-generation photocopy and should have been replaced by the publisher), and then over land via Edessa, Trebenishte, Tetovo, Prizren, Prishtina, Novi Pazar, Atenica, Pilatovići, to Ártánd, in the basin of the Carpathian mountain range, just inside the Hungarian border. The second map of this northern route, fig. 62, is a shame to the publisher: a hardly legible copy of a map with all kinds of irrelevant information still on it, illegible Cyrillic handwriting on spots that had visibly been eraded first, even crossed out routes; seven place names are indicated in small frames, but Trebenishte, well within the map, is not amongst them.

But the author has attained his main aim: to clarify the situation and to make a new approach possible.

In a contribution of some twenty pages by R. Vasić, these finds from the places to the north of Trebenishte are treated. In the footnotes of articles written after this volume, the main author refers modestly to this volume as Stibbe/Vasić 2002. It does him credit.

D.C. Steures

KLAUS JUNKER, *Pseudo-Homerica. Kunst und Epos im spätarchaischen Athen*. Berlin: Verlag Walter de Gruyter, 2003. 47 pp., 14 figs.; 31 cm (141. Winkelmannsprogramm der archäologischen Gesellschaft zu Berlin). – ISBN 3-11-018034-0/ISSN 0178-1154.

This short and convincing study daringly takes three well-known images on Athenian vases as illustrations of the subject: the reception of Homer in late archaic Athens. The first paragraph of the chapter *Results*, translated here by the reviewer, sums it all up.

'Pseudo-Homerica. The archaeological investigation into mythology is divided ever since Lessing's famous article *Laokoon oder über die Grenzen der Malerei und Poesie* of 1766. One school of thought is based on the conviction that mythological images were as a rule created in direct contact with versions in literature. The other school opposes - certainly correctly - the notion that the images had to have an illustrative character and demands to take the autonomous aspects of this medium consequently into account. The interpretation of the three images treated here as pseudo-homeric reckons with this circumstance. The world of Homeric myths appears on them in a certain way in different gradations: the saving of Sarpedon's body in both versions by Euphronios (Figs. 8a,b; 10) has doubtlessly evoked in every contemplator the related scene in book 16 of the Iliad. In the older image, Euphronios renders almost nothing of Homer's characterisation of the situation; in the later one he does do so, but he has taken a distance from the exact wording of the text [among other things, by putting Hermes, not Apollo in the central place, as in book 16]. The motive of the players of a board game (Fig. 4) and the scene in which Achilles tends a wound of Patroklos (Fig. 1) are in a different way pseudo-homeric. The images created by Exekias and the Sosias Painter have seduced many modern contemplators into wanting to recognise actual situations of the Trojan War. The psychological richness and the unmistakable naming of the actors give the images a strongly narrative and situational character and even ask for considering them actual events in a *Life of Achilles*. The Homeric character of the images, however, is only due to skilful construction. Characters are as it were further developed in the sense of the Homeric epics and brought into a new constellation: Achilles, versed in the art of healing; his bosom friend Patroklos; Aias who is almost Achilles' equal as a warrior; the proximity of death of all three heroes - these steady Homeric motives represent as it were the building blocks from which a new imagery is built. The images thus created are documents of the reception of Homer in archaic times - 'lost epics' cannot be construed from them. If anything, it is the other way round: the exceptional quality of the newly invented images discussed here results from their deviation from the well-known literary versions of the epics and from their way of concentrating the attention of the contemplator in a way more intense than any "illustration" could ever do.'

D.C. Steures

MARINA ALBERTOCCHI, *Athana Lindia. Le statuette siciliote con pettorali di età arcaica e classica*. Roma: Giorgio Bretschneider Editore, 2004. VIII+198 p., XXXV Tav.; 30 cm (Supplementi alla RdA 28). – ISBN 88-7689-187-0/ISSN 0392-0895.

There is an often-quoted remark of Diodorus Siculus, that Sicily, the granary of the ancient world, was entirely dedicated to Demeter (Diod. 5,2,3). Whoever remembers these words and unsuspectingly visits the museums of Sicily, takes for granted that the many terracotta female statuettes with pectorals, dated 550-400 BC, represent or have to do with Demeter. And the captions in the show-cases, as far as I remember, do nothing to undermine that opinion. So the title of this study came as a surprise: it suggests that Athana Lindia, the Athena statue of Lindos, is really represented, and that makes the reader curious. Now it appears that 'Athana Lindia' is an old interpretation of these statuettes by Blinkenberg. 'Generally known as Athana Lindia', it says on p. 1. Should we really all have known? The author disputes this identification and argues that the statuettes do represent a female chthonic deity but only in the conclusion she makes a clean breast of it: it is Demeter (p. 172). That makes the title of this study nothing less than

misleading. I can neither imagine the author being responsible for this misleading title, nor that she is grateful to the person who thrust it upon her book. The words of Diodorus are surprisingly not referred to in this study. They should have been.

The author, whose Ph.D. thesis of 1996 forms the basis of this book, formulates its aim as follows in ch. 1 on p. 4: 'Ci è sembrato quindi che lo studio di questa classe potesse fornire dei dati significativi sia ai rapporti tra le officine coroplastiche e all'area di diffusione dei prodotti delle diverse fabbriche, sia a quelli di dipendenza o autonomia dalla madrepatria dal punto di vista religioso e dei modelli iconografici.' I would like to show below that she does attain her own aim.

Ch. 2 explains the method of typological classification and provides us with the following technical terms, which I paraphase. *Iconographical type*: in this case, all statuettes of women with pectorals from Sicily between 550 and 400 BC; *groups*: A sitting, B standing, C standing with slightly bent knees, D busts; *subgroups*: with and without arms represented; *types*: groups of statuettes that can be reduced to the same model or *prototype* from which the first matrix was drawn; series: if I understand correctly, a series comes from the same matrix, and a new series is started when a new matrix is drawn from a statuette produced in an earlier series; *variants*: statuettes with small iconographically *un*intended changes; *versions*: statuettes with small iconographically intended changes. This is all clear, and I wish the author had strictly kept to her own terminology: but, on p. 14, *version* refers to what should have been named a type; she regularly uses the undefined term *class*, apparently synonymic with *iconographical type* (p. 4, 133, 138, 139, 157 and 165, the latter two even in the headings of two chapters). Although the problem of shrinkage of matrices is nowhere treated and the term *generation* is not defined, she freely speaks of *generations* on p. 20-21. Sometimes, terms are used long before they have been explained: the term *campione*, fabric, is used throughout the 90 pages of ch. 3, *Typological classification*, with identifying numbers, long before the fabrics are identified in ch. 4. A last criticism is that of the Italian habit of using Roman numerals instead of Arabic ones for types and plates. The following example has been taken at random (there are dozens of such passages) from p. 9, in order to show how they lead to an unquiet layout and sheer illegibility: '19 tipi (A I, III-IV, VIII, XVII, XX, XXVI-XXVII, XXIX, XXXIII, XXXVII, XXXIX, XLVI-XLVII; B IV, XXX; C I, IX e XI).'

After these (hopefully, minor) criticisms, it is time for praise. Every museum curator and every finds processor of excavations on Sicily will be very glad to have the description of the 23 fabrics the author distinguishes on p. 103-104, and especially of the profound conoisseurship with which she identifies their provenances. The same holds for her typology, which is impeccable, and the clear photographs.

Every iconographical element is duly treated and given many bibliographical references in ch. 5. In ch. 6, which treats the sites where the statuettes were found in alphabetical order, the three main production centres of Agrigento, Selinunte and Gela emerge (I wish the map of Sicily on Tav. XXXV would have had a second caption, also in alphabetical order, and that the rivers, frequently mentioned in the text, would have been named on it). Ch. 7 discusses the contexts of the finds and identifies these as sanctuaries of chthonic deities, although we are warned that the following five elements are no proof in themselves: finds of statuettes, *bothroi*, position outside the city, nearness of cemeteries, and grottoes. In ch. 8, interpretation is the subject: the statuettes with their postures, *polos* and attributes represent not a human but a divine figure. Which one? Not Athana Lindia, from whose sanctuary on Rhodes the iconographic type is absent. A similar argument is used against an identification with a Demeter from Asia Minor. Do they then represent a generic deity? No, because in some cases attributes of Athena were added. Do they represent a statue from the motherland of the colonists or a model created immediately after arriving? None can be found. Alas, this chapter ends in an almost Socratic aporia. Ch. 9, *Creation of the class: chronology and motives*, shows that the statuettes were invented in Agrigento and later also produced in Selinunte and Gela, each with a reduced number of types. They are not dependent on iconography from the motherland. In the conclusion, the author suggests Demeter as the deity represented.

Which rounds off the subject. The sombre note in the last paragraph of the main text was not needed: 'Many questions remain open (...) So our contribution limits itself to formulating hypotheses (...).' The author has treated all existing hypotheses and attained her self-set aim.

D.C. Steures

KATHRIN SCHADE, *Frauen in der Spätantike - Status und Repräsentation. Eine Untersuchung zur römischen und frühbyzantinischen Bildniskunst*. Mainz am Rhein: Verlag Philipp von Zabern, 2003. XVIII+269 S., 67 Taf.; 29 cm. – ISBN 3-8053-2907-5.

This is a rich study; whoever works in the field of late antiquity will find useful facts and insights in this book. The reviewer did so. In the introduction the following passages catch the eye. On representation: 'Die Frauenbildnisse, um die es hier speziell gehen soll, dienten der Selbstdarstellung der abgebildeten Person und ihrer Familie; zugleich boten sie der einzelnen Frau die Möglichkeit, sich mit ihrem sozialen Rollenbild, das primär von männlicher Sicht bestimmt war, zu identifizieren. Folglich vereinten die Porträts Züge von Individualität, die auf die persönliche - weibliche - Identität der Dargestellten verwiesen, gleichzeitig machten sie soziale Wertvorstellungen auf möglichst verständliche Weise anschaulich.' On status (defined in a footnote: position is the place in society, status its evaluation): 'Der Gesamtstatus "Frau" setzt sich daher aus einzelnen Statusformen zusammen: dem Altersstatus, dem Ehestatus, dem Status der Mutterschaft, dem Familienstatus und dem gesellschaftlich-elitären Status. Diese Statusformen füllte die Frau mit einem entsprechenden Rollenverhältnis aus, das durch gesellschaftliche Normen - im ethischen Verständnis durch bestimmte Tugenden - definiert war.' On the way of working: 'Der zentrale Teil der Arbeit basiert dann auf der Methode ikonographischer Analyse und ikonologischer Interpretation.' And on the chapters of this study: 'Die einzelnen Kapitel unterteilen

sich in folgende ikonographische Themenschwerpunkte: Frisuren, Kleidung, Ornat und Schmuck, Anspielungen auf die Liebesgöttin Venus, Attribute der Bildung, Ehe- und Familiendarstellungen, physiognomische Stilierungen und die Gestaltung des weiblichen Körpers.' After a thorough *status quaestionis* follows the treatment of two eras with such subchapters embedded: the 3rd century after Severan times (AD 235-305), and Constantinian until Justinianian times (AD 305-565).

And in the first of these two eras the author plunges us into the intricacies of imperial ladies. A list of imperial couples, only referred to in a footnote on p. 7, is regrettably missing from this study; footnotes, however well documented, do not make up for this omission.

But the lovely results of the author's work follow immediately. Firstly, on the coins, the 3rd-century hairdo never changed, whereas imperial houses did, rapidly. So this hairdo, the *Scheitelzopffrisur*, a bun of parallel braids taken up at the neck and put upwards over the middle of the hair, must suggest stability and 'a good empress'. It was elaborated in the time after Gallienus (AD 253-268): the bun was then folded back inwards above the forehead. Secondly, putting the empress' bust on coins in a lunula is the equivalent of the *corona radiata* of her husband: he is the sun, she the moon, and together they eradiate *lux aeterna* and *aeternitas domus divinae*. Thirdly, as the influence of the senate shrunk in the age of the soldier emperors, the senators reacted by seeking status: senatorial wives are shown on Muse sarcophagi as educated ladies of virtue and high status. Female portraits with scroll on season sarcophagi suggest that they were portrayed as ladies who managed estates. The first 'first lady' to also display status in her portraits was Magnia Urbica, the wife of Carinus (283-285). The author calls her the first empress in 'Byzantine' dress. Fourthly, portraits of older ladies with wrinkled foreheads suggest mental concentration and care for empire and state reponsibility. And fifthly, of course, motherhood was the virtue most appreciated by emperors wanting to found a new dynasty. For that reason, no women were shown on the coins of the tetrarchy, which presented itself as an alternative to hereditary dynasties.

Which brings us to the second part of this study. Constantine again claimed absolute power and a hereditary dynasty, so he put first his wife Fausta and then his mother Helena on coins, but even the legitimate wife of his father Constantius Chlorus, Flavia Maximia Theodora. Then came fourty years without female portraits on coins, which the author does not try to explain: the sons of Constantine and the Valentinian emperors. From Theodosius onwards, many imperial women appeared on coins. At the same time, the traditional coin repertoire of the principate with its many themes was given up: the reason was the idea of emperorship by the grace of God, in which there was no place for the display of civic virtues. The empress now gets a reverse with a Victoria holding a shield with christogram. Finally, christian imagery eliminated allusions to the femininity of the empresses.

The Theodosian empresses, who wanted to be as holy as the finder of the True Cross, Helena, imitated her compact hairdo and thus became *novae Helenae*. But Helena also set the pattern of beauty combined with motherhood.

The first empress to wear the imperial insignia herself was Flacilla, the wife of Theodosius I: imperial chlamys, a diadem of two rows of pearls with a jewel on the forehead and bound in the neck with strings. Jewel collars and abstract form principles of frontal heads would end the classical imagery and show the way for Byzantine coins.

In sculpture, there remain only two forms of hairdo: a plait in a circle on top of the head (*Zopfkranzfrisur*) and the *Scheitelzopffrisur* described above, both with a shawl on top of it. As the empress figures grew stiffer, the aristocratic ladies took their own path: they were shown in their female world, i.e. their own rooms or rustic villas, with jewels, dresses that enhanced the beauty of their bodies, toilet articles, distinguished gestures and Venus postures. Representation of status and virtues became indivisible: conjugal fidelity, motherhood and female beauty. However abstract art was becoming, individual features and female roundings were not denied. Christianity put an end to all this in the 5th century. In a final look ahead, the author shows that the image of the Virgin Mary, virgin-like and mother-like at the same time, was to drive out every other form of female representation. And indeed, the wife of Theotecnus on a fresco in the catacombs of San Gennaro in Napels, shown on Colour Plate a, looks exactly like a Virgin Mary.

D.C. Steures

LUIGI TODISCO (ed.), *La ceramica figurata a soggetto tragico in Magna Grecia e in Sicilia*. Roma: Giorgio Bretschneider Editore, 2004. 809 pp., 54 fig., 15 tab., CLVI Tav.; 24.5 cm (Archaeologica 140). – ISBN 88-7689-200-1/ISSN 0391-9293.

With this voluminous but well-bound book (it gloriously survived more than a month in a briefcase, in order to be read in the bus between home and work), the one-volume *repertorium* makes a splendid comeback in classical archaeology. Luigi Todisco, a prolific author on ancient drama, had the good idea of putting together in one book all ancient figured vases found in Italy and Sicily that have ever been mentioned as depicting drama, writing an inspiring introduction, and putting four gifted and thorough young *studiose* to work. The book will help both archaeologists and philologists in their heated debates on the subject. We may be sure that Todisco's own work on this volume must have been enormous, as every vase and every find circumstance is abundantly documented with description, a complete modern-style bibliography (author, year, page) and a small but just legible photograph, or lacking that, an old drawing; and as, whichever way one wants to enter the material, there is always a quick way to find what one is looking for, including an almost hundred-page-long general bibliography. Still, I wish the authors of the voluminous reading texts would have been deservedly mentioned on the cover and title page of the book. And a larger page would have made the book less voluminous and the photographs less small and better legible. But these are my only real criticisms.

Maria Catucci treats times and ways of diffusion of theatrical themes by means of imported pottery. By means of a complete gazetteer of sites with prolific foot-

notes, she shows that the buyers of these vases were mostly indigenous aristocrats who must have known the theatrical productions of padded dancers and the like and who chose heroic models.

Mary Anne Sisto got the ungrateful task of treating the shapes of Italiotic and Siceliotic vases with tragic subject. She bravely formulates the requirement of giving the corpus a more ample and profound air than just that of classifying and attributing. Her conclusion is that most vases were especially made for the grave. Not the theatrical, but the funerary meaning was important to the buyers (as Todisco puts it in his introduction). But alas, she must also conclude that there is no correlation between shape of the vase and subject.

Giuseppina Gadaleta treats the archaeological contexts in Greek colonial and in indigenous centres of southern Italy and Sicily. And indeed, every grave is examined diligently here. And again, it appears that almost every vase with tragic subject was especially made for the grave of hellenized indigenous aristocracy, and that *all* figured vases, tragic or not, speak of the role the deceased had played or had wanted to play in life. And if the vases really represented drama, it was drama the deceased had got to know through reading rather than attending performances. When she treats the distribution of themes, I very much miss a distribution map.

Carmela Roscino, finally, treats the image of the theatre: elements of theatrical characterization and iconography in Italiotic and Siceliotic pottery. Though she starts with a caution that a tragic subject was attributed to many vases without proof, it must be said that the book she writes great part of uses these attributions as a selection criterium. Firstly, she treats masks (hardly any visible on the vases), and costumes with long sleeves, always seen as an attribute of the theatre. She is very cautious here and concludes to no less than twenty kinds of characters that may have them, and not necessarily theatrical ones. Then follow the theatrical structures; she dismisses earlier descriptions of the so-called Assteas-stage: they all represent interiors of houses, never shown on stage. Neither are doors standing ajar and rocky arches signs that a performance is depicted. In her treatment of the characters, she argues that the presence of a *paidagogos* points to a stage performance, as he often plays the role of the messenger telling the scene we see on the vase. She concludes that *paidagogoi* shown on their own point to popularity of travelling single actors of the 4th century who gloried in loose messenger speeches. (If she is right here, it is strange that not a single *paidagogos* has been identified amongst the 4th and 3rd-century miniature masks of Lipari.) A special case are columns with tripod, often taken to be a sign of victory in a theatrical contest. Instead, she argues, these seem to act as a border for the upper register of the main scenes of the vases, where gods are shown. She concludes that only actually shown stages, masks and costumes with long sleeves (alas, a *non sequitur* after their cautious treatment on pp. 238-271) are proof that an actual performance is depicted.

I congratulate all authors on their work of making an up-to-date wonderful and cautious book of reference.

D.C. Steures

PETER GROSSMANN/HANS-GEORG SEVERIN, *Frühchristliche und byzantinische Bauten im südöstlichen Lykien. Ergebnisse zweiter Surveys*. Tübingen: Verlag Ernst Wasmuth, 2003. xii+236 pp., 42 figs., 36 pls.; 30 cm (Istanbuler Forschungen 46). – ISSN 0723-4333/ISBN 3-8030-1767-X (cloth).

Two years after the appearance of 'Mountain and Plain', an edited volume based on notes of Richard Martin Harrison which devoted a mere chapter on the architecture of the sites to the north of Myra, the current volume constitutes the first discussion of this topic in southeastern Lycia since Harrison's groundbreaking research more than four decades ago. The latter's work on Byzantine ecclesiastic architecture in the region was the first scientific assessment, yet it was only presented in articles (*AS* 13, 1963, 117-151 and *AS* 22, 1972, 187-197), making this the first monograph dedicated to the subject. Leaving aside an article by Clive Foss (*DOP* 48, 1994, 1-52) dealing with the Lycian coast, this volume is therefore a welcome resumption of scholarly attention, although it has to be said that this in fact concerns the publication of the results of two surveys conducted as long ago as 1976 and 1977.

The study was conceived in two main parts: a catalogue of early Christian and Byzantine sites and their architecture, and concluding remarks on the contemporary architecture in the region.

The catalogue provides a description of the different sites with a good and comprehensive discussion of the buildings in comparison to other sites in Lycia and the wider region of southwestern Anatolia, resulting in a clear analysis of the different buildings phases. This is followed by a detailed discussion of the registered architectural sculpture. The work, in this respect, constitutes a giant leap from the often very succinct descriptions presented by Harrison. Moreover, it offers many additional remarks and observations not made in earlier studies, and even corrections of earlier information. Furthermore, although the general focus is on ecclesiastical architecture, the book is not limited to church-architecture but also pays attention to domestic and functional architecture, justifying its title and providing a welcome addition to the research conducted by the team of Frank Kolb in the territory of Kyaneai (*Lykische Studien* 1-6). Some matters are looked into more closely. Especially the discussion of the site of Asarcık and the problem of identification of the Sion monastery, already briefly addressed by Harrison (1963: 150), is well founded and provides new insights. The question raised concerning the proximity of both complexes is equally intriguing.

Some small remarks have to be made though. Although the book is generally well illustrated, a situation plan showing the discussed buildings within the settlement would have been a welcome addition, especially for the large sites of Andriake and Sura. Plans of the investigated structures are provided with a clear indication of the different building phases, but unfortunately without any legend. Finally, the main measurements of the structures should have been mentioned in the text, as now everything has to be ascertained from the plans.

The second part of the book, devoted to summarizing studies on architecture, starts with observations on building techniques. The discussion of the different types of masonry allowed the identification of local characteristics in building techniques, such as the expertise in working the living rock. Not only the masonry but also the typology of the buildings, i.e. the strong presence of the *triconchoi* beside the traditional form of the three-aisled basilica with an atrium, a narthex and a single projecting semi-circular apse on the east, suggests a local school. Especially the examples which were rectangularly enclosed on the outside, are a characteristic feature. Like Harrison, the authors look for its origin in the eastern Mediterranean. According to them, this special type of *triconchos* was due to the frequent contacts of the region with Palestine where the same type is attested. As example they cite the travels of the founder of the Sion-monastery to the Holy Land. The popularity of the *triconchos* in Palestine motivated the incorporation of an excursus on *triconchoi* in that area. That said, such links with the Holy Land can hardly have been exceptional and certainly not limited to clergymen of rural Lycia; yet nowhere else did they develop into such architecture.

The lavish architectural decoration is equally typical for the area. A comparison with capitals from other Lycian cities and with those of Constantinople made clear that the examples from southeastern Lycia were a local development. Even if no direct copies from the capital of the empire are attested in the area, some influence is noticeable in the second half of the 5th or early 6th century, but this gradually diminished and the motives were further developed locally.

There had been a long tradition in Lycia of local masonry and sculpture. According to Harrison, the type of carving is limited to the small area around Alaca Dağ and constitutes the work of a distinctive atelier (Harrison 1963: 147; 1972: 197), something that has been confirmed by Grossmann and Severin.

Based on the study of the architectural sculpture, a relative chronology was worked out for the Alaca Dağ group with its typical decoration. This allowed all monuments in the area to be dated to the first half of the 6th century AD, something which was already suggested by Harrison but has now been systematically founded.

To conclude, this work is a very well conceived and useful instrument for everybody involved in the study of southwestern Asia Minor in the early Byzantine period in general, or in the study of its early Byzantine architecture in particular. The close adherence to the material is both the strength and weakness of this study, as we are presented with a thorough analysis of the local architecture by two specialists in the field, who, however, tend to pass by on some of the questions raised by it. For instance, they do not address why there are that many grand basilicas to be found in the Lycian hinterland, far removed from any urban centre, during the 6th century. Harrison's thesis, that this is due to the migration of a large part of the population from the coastal region to inland sites in late antiquity, has been rejected by Foss (*DOP* 1994). Unfortunately, this book does not contribute to that aspect of the discussion.

Peter Talloen

E. KOTJABOPOULOU/Y. HAMILAKIS/P. HALSTEAD/C. GAMBLE/P. ELEFANTI (eds.), *Zooarchaeology in Greece: Recent Advances*. London: British School at Athens, 2003. 310 pp., 111 figs.; 30 cm (BSA Studies 9). – ISBN 0-904887-41-3.

The papers in this volume were scheduled to be presented in September 1999 at the International conference on Zooarchaeology in Greece. Unfortunately the conference had to be cancelled as the result of a big earthquake that hit Athens only two days before the meeting. The individual writers of the papers therefore have not had the opportunity to discuss their research nor could they benefit from the results of the work of their colleagues. This has resulted in some overlap in the papers, especially those related to the succession of island faunas.

The volume consists of three parts. The first deals with environment and subsistence, the second with consumption, ritual and other uses of bones. Finally, the third part is devoted to ethnographic, textual and representational evidence. Together the three parts demonstrate the wide scope of zooarchaeological research in Greece. The volume contains 33 contributions, 32 in English and one (by the late Gunther Nobis) in Greek. An overview of their contents can be obtained by reading the abstracts in English and Greek at the beginning of the volume. The layout is clear, with many maps, diagrams and photographs.

The first two papers deal with new analytical techniques such as the use of the scanning electron microscope for the reconstruction of the diet of sheep. Seven articles follow with aspects of island archaeology. The diversity of the faunal evidence from the islands is the result of a complex of factors ranging between local extinction and human introduction. However, the study of these island faunas is seriously hampered by the apparent lack of a taphonomic approach and by the lack of C14 dating. Research focuses mainly on the islands Crete and Youra.

Judith Powell describes the excavations of the Cave of the Cyclops on the island of Youra, which have produced one of the largest fish bone assemblages of Europe. The fish remains that she has studied cover the time period from the Mesolithic to the Neolithic. The fishery was essentially coastal and inshore rather than offshore. It relied on a varied and diverse catch of small coastal species. Powell states that local fishing promotes seafaring and therefore allows for extensive trade networks.

The study of subsistence is always a popular topic in zooarchaeological research. Since Paul Halstead started counting sheep in Neolithic and Bronze Age Greece the importance of secondary products is overall recognised as a research topic. Curci & Tagliacozzo find that at the Neolithic site of Makri (Thrace) livestock management was not only oriented towards meat production but also included secondary products such as milk, wool and traction. Greenfield & Fowler present evidence from Megalo Nisi Galanis in Macedonia that the shift to older individuals begins earlier for cattle than for ovicaprids. Apart from the study of animal remains, there is also evidence from animal figurines. Toufexis

focuses on figurines from Neolithic Thessaly and shows a growing importance in the late Neolithic of cattle figurines, reflecting the use of their secondary products and the shift to plough agriculture.

Cosmopoulos et al. find a great deal of continuity in live stock management from the Bronze Age through Roman times at Eleusis, but they also establish that over time animals without significant secondary products, such as pigs, become less important. However subsistence alone is not sufficient to explain patterns of animal use. For example at the Hellenistic town of New Halos animal husbandry is closely related with the sacrificial duties of the inhabitants. Phoca-Cosmetatou, Yannouli and Mylona discuss the role of Ibex, of wild carnivores and of marine fish respectively. These three articles give useful overviews of the species in question.

But there is life for the zooarchaeologist *beyond subsistence*. The ritual role of animals and animal parts can only be studied through an integration of zooarchaeological, literary and iconographic data and the papers in the second section of the volume are proof of this statement. Two case studies, from the Artemision at Ephesos and from the temple of Apollo at Eretria, give evidence for the ritual burning of femur, patella, sacral and caudal vertebrae of ovicaprids. Forstenpointer's investigations into the ritual procedures at Ephesos give, besides zooarchaeological information, a link with Greek vase paintings and even with experimental reconstruction of offering practices.

There is an interesting paper by Hamilakis on the role of hunting in farming societies. He puts forward that hunting is more than just a risk-buffering strategy to farmers. In the increase of hunting between the middle Neolithic and Middle Bronze Age he sees an increase in gender-linked authority and power. Hunting was an important concern for Mycenean (male) elites and was linked to power and warfare. Zooarchaeological evidence for this line of thought is found in the burials of dogs as grave goods in elite graves. The plentiful iconography of lion hunting provides another argument for the role of hunting by Mycenean authorities. Excavations of Minoan sites on Crete and other islands have yielded artistic representations of exotic animals. The manner in which the animals are drawn suggests, according to Masseti, that the artist was familiar with them by sight. Exotic animals such as Grants Gazelle and Green Monkeys probably reached Greece through gift exchange between the elite.

The book ends with three interesting papers on ethno-archaeological research. The first one by Kapetanios is on pastoral production and the importance of cheese-making in the formation of cooperative groups. The second contribution by Perez Ripoll discusses the adaptation to upland ecological conditions by the pastoral community of Sarakini. The surviving mechanism focuses on short distance seasonal movements, adjustment to the ovicaprid reproductive cycle and the storage of leafy-hay as a provision for wintertime. The final paper on patterns of feasting with meat offerings is an appropriate end to a handsome volume on zooarchaeology in Greece.

Louise H. van Wijngaarden-Bakker

MARINA R. TORELLI, *Benevento romana*. Roma: «L'Erma» di Bretschneider, 2002. 542 pp., 9 pl. (Saggi di storia antica 18). – ISBN 88-8265-209-2.

L'intention de Marina Torelli est de retracer l'histoire de Bénévent, depuis la fondation de la colonie latine au III^e^ siècle av. J.-Chr. jusqu'à la conquête de la ville par les Longobards au VI^e^ siècle de notre ère, mais, comme l'endroit était déjà occupé au moins à partir du VIII^e^ siècle av. J.-Chr., elle examine tout d'abord les antécédents préromains de *Beneventum* qui succéda à un centre indigène samnite du nom de *Maleventum*. Depuis quelques décennies la recherche archéologique fournit un nombre toujours croissant de données concernant l'occupation du territoire en question à partir de la fin du VIII^e^ siècle, mais ces données sont vite passées en revue par l'auteur qui s'est attaché surtout à une analyse critique de la tradition littéraire antique dans laquelle *Maleventum* apparait essentiellement en deux circonstances: la fondation légendaire de la ville attribuée à Diomède (qui la relie à la Daunie) et les opérations militaires des guerres samnites. L'histoire de la ville romaine se disloque en un nombre d'épisodes, déterminés par les sources littéraires, épigraphiques et archéologiques disponibles, qui ne permettent certes pas un récit historique continu mais plutôt un enchaînement de points de contact (plus ou moins importants) avec la 'grande histoire', p.e. à travers des personnages originaires de Bénévent qui se sont fait remarquer (en bien ou en mal) ou des évènements historiques qui se sont déroulés à Bénévent ou dans son territoire. Un facteur important sans aucun doute est sa position particulière par rapport aux voies de communication en Italie centro-méridionale. Bénévent devint en effet un noeud routier important et une ville étape incontournable sur le tronçon appenninique de la voie appienne entre Capoue et Brindes. Ainsi elle a du voir passer ou séjourner à plusieures reprises un personnage important, ou même un empereur, en route vers l'orient. Sans doute grace à cette position particulière, Bénévent, contrairement aux autres centres samnites, échappa au lent déclin et resta un centre économiquement actif tout au long de l'époque impériale, pendant laquelle la ville se retrouve à la une de temps à autre.

A la fin de l'époque julio-claudienne, un évènement frappant dans lequel se trouva impliquée Bénévent fut sans doute la '*coniuratio Viniciana*' contre l'empereur Néron. L'époque flavienne semble e.a. marquée par un essor particulier du culte d'Isis, attesté par une abondante documentation archéologique venue au jour à Bénévent depuis le XVII^e^ siècle qui trouve son égale dans aucune autre ville d'Italie en dehors de Rome. L'apogée de Bénévent fut indubitablement le II^e^ siècle de notre ère et plus particulièrement le règne de Trajan, dont témoigne toujours le monument antique le plus en vue de la ville, l'arc de Trajan, marquant le début de la *Via Appia Traiana*, dédoublement de la voie appienne permettant d'atteindre plus facilement Brindes. Le décor sculptural de l'arc, qui semble faire allusion à l'institution des *alimenta* par Trajan, constitue également une documentation historique non négligeable. Cette institution est du reste surtout connue à travers deux inscriptions, l'une de Velleia et l'autre, la *tabula*

des *Ligures Baebiani*, trouvée en 1832 à Macchia di Circello au N de Bénévent. Outre pour comprendre le système des *alimenta*, la *tabula* en question, qui nous fait connaître nombreux *fundi* et *pagi* de l'ager *Beneventanus*, est un document capital pour l'histoire agraire du territoire de Bénévent, objet de plusieures déductions coloniales, e.a. triumvirales et augustéennes. A l'antiquité tardive, la ville aux origines samnites, située aux abords de l'Apulie et de la Lucanie, se retrouve finalement en Campanie. Au V^e^ et VI^e^ siècle l'histoire de Bénévent devient particulièrement tourmentée et l'auteur nous laisse suivre les conquêtes successives de la ville jusqu'à la fondation du célèbre duché longobard qui marque le début d'une nouvelle époque de prospérité.

L'ouvrage de Marina R.Torelli constitue un bel exemple d''histoire locale' contre le fond de l''Histoire Romaine', chaque episode constituant pratiquement une étude à part, traitée de façon exhaustive, ne délaissant aucune source possible, et avec grande rigueur scientifique. Un long appendice de plus de 150 pages (un tiers du volume) est dédié à la *tabula* des *Ligures Baebiani*, comprenant une analyse onomastique et un examen du cadre topographique de ce document important.

Frank Van Wonterghem

LUCA ANTONELLI, *I Piceni. Corpus delle fonti. La documentazione letteraria*. Roma: «L'Erma» di Bretschneider, 2003. 243 pp., 4 figs.; 24 cm (Genti e province d'Italia 3). – ISBN 88-8265-242-4.

Dans ce volume sont rassemblées les sources littéraires antiques concernant les Picéniens et leur région, qui s'étalait le long de l'Adriatique entre Rimini et Ascoli Piceno. Un volume suivant semble déjà prévu pour recueillir les sources épigraphiques. Pour mettre un peu d'ordre dans l'ensemble des témoignages historiques des auteurs grecs et romains ceux-ci sont groupés en trois parties. Tout d'abord sont présentés les textes relatifs aux origines du peuple picénien, son identité et son territoire. Avec les textes recueillis dans la seconde partie on peut suivre l'histoire de la région, divisée en huit sections chronologiques, des origines jusqu'à l'antiquité tardive. La troisième partie du recueil est dédiée à quelques 'items' particuliers de la région: les personnages illustres, les prodiges et les produits du terroir.

Nul ne contestera l'utilité et même la nécessité d'un tel *corpus* de sources. Beaucoup de régions d'Italie disposent déjà d'un tel recueil, mais aucun ne se ressemble. En effet, les opinions s'avèrent très divergeantes quant'à la façon de choisir, de classer et de présenter les textes retenus significatifs. Le plus indiqué du point de vue scientifique consiste certainement à presenter, auteur par auteur, tous les passages significatifs dans leur contexte le plus large possible et à fournir ensuite un ou plusieurs indexes très détaillés pour permettre la consultation des sources recueillies. Mais, afin de joindre l'utile à l'agréable, on peut aussi essayer de réaliser plus qu'un ouvrage purement de consultation, et présenter un recueil de témoignages d'auteurs antiques, groupés par thèmes, agréable à lire et accessible à tout le monde. Seulement, par une telle classification thématique les passages sont généralement mis en lambeaux et arrachés de leur contexte, et les répétitions de textes deviennent aussi inévitables. En réunissant les témoignages en petits groupes autour de différents thèmes, l'auteur du présent recueil a nettement opté pour la seconde voie, mais il a toutefois bien pris soin de les encadrer de textes introductifs, de commentaires historiques et de données bibliographiques, quitte à devoir répéter à plusieures reprises certains passages capitales de Strabon, Pline l'Ancien ou autre. Ainsi, en parcourant le Picénum et son histoire, le lecteur retrouve à chaque étappe non seulement les textes antiques et leur traduction mais également un aperçu des résultats de la critique moderne. Même si la documentation cartographique à l'usage du lecteur est assez sommaire et peu précise, cette publication offre donc bien plus qu'un simple corpus de sources écrites grecques et romaines.

Frank Van Wonterghem

FRANCESCO MARIA CIFARELLI, *Il tempio di Giunone Moneta sull'acropoli di Segni.* Roma, «L'Erma» di Bretschneider, 2003. 193 pp., 213 figs.; 26 cm (Studi su Segni antica 1). – ISBN 88-8265-239-4.

Le temple de *Iuno Moneta* sur l'acropole de Segni (*Signia*), située dans les Monti Lepini au SE de Rome, qui fait l'objet de cette étude, n'a jamais du être fouillé mais il a toutefois fallu attendre la première moitié du 19^e^ siècle pour être reconnu dans les murs massifs incorporés dans l'église S. Pietro, qui jusqu'alors avaient été considérés comme les restes d'une forteresse. Au début du 20^e^ siècle R. Delbrück y consacra une monographie (*Das Capitolium von Signia*, Rome 1903), avec des relevés précis et une description exhaustive du monument. Maintenant, un siècle plus tard, Francesco Maria Cifarelli s'est à nouveau attaché à cet exemple remarquable d'architecture étrusco-italique, dont il examine dans une première partie l'histoire, le contexte topographique et l'architecture et ensuite l'ensemble des terres cuites architectoniques provenant de sa décoration.

L'auteur ne veut certes pas refaire le travail de Delbrück, dont la documentation précieuse conserve toute sa validité. Mais, comme les nombreux temples 'étrusco-italiques' découverts depuis le temps de Delbrück ont sensiblement augmenté les connaissances concernant la typologie planimétrique de ces édifices, et que les opinions sur les techniques de construction, en particulier sur l'emploi de l'*opus polygonale*, ont également évolué, tout comme les connaissances concernant la décoration architectonique des temples 'étrusco-italiques', le moment était certainement propice de réexaminer le temple de l'acropole de Segni à la lumière de ces nouvelles données, de proposer une reconstitution de l'édifice et de le replacer dans une vue d'ensemble sur l'architecture religieuse étrusco-italique. Sur la chronologie de l'édifice planait aussi un désaccord depuis que Ettore Ghislanzoni en 1916, après une série de sondages stratigraphiques dont la documentation semble perdue, avait opposé une datation 'basse', tardo-républicaine, à la datation 'haute', tardo-archaïque, pro-

posée auparavant par Delbrück. Au terme d'une étude approfondie de tous les éléments disponibles, la plupart déjà objet de publications antérieures, l'auteur du présent ouvrage constate un mélange d'éléments traditionnels, comme la reprise des *Tuscanicae dispositiones* dans le plan de l'édifice et l'emploi d'une technique de construction ancestrale (*opus polygonale*), deux éléments employés généralement pour prouver une datation 'haute', avec des caractéristiques plus innovatives de l'architecture tardo-hellénistique, comme les grandes dimensions, les proportions moins compactes et l'insertion du bâtiment dans un complexe architectural plus étendu, rappelant certains sanctuaires hellénistiques de l'Italie centrale et favorisant plutôt une datation 'basse'. Ainsi il opte à son tour pour une datation 'basse' au IIe siècle av. J.-Chr., bien compatible avec les indications fournies par les terres cuites et coïncidant également avec l'essor urbanistique de *Signia* à la fin de la République, bien mis en évidence dans le dernier chapitre de la première partie de cet ouvrage. Le rapprochement entre ce complexe tardo-hellénistique de l'acropole de Segni avec *Q. Mutius* attesté à la même époque (fin IIe -début Ier siècle av.J.-Chr.) comme architecte d'un nymphée dans cette même ville, est certainement une hypothèse attrayante.

Les terres cuites architectoniques, présentées dans la seconde partie de cet ouvrage, furent mis au jour sur l'acropole de Segni, à plusieures reprises entre la fin du XIXe et le début du XXe siècle, d'abord par hasard et ensuite comme résultat de fouilles programmées. Il s'agit d'antéfixes, plaques de *sima*, plaques de revêtement et figures en haut-reliëf, appartenant à différents systèmes décoratifs et autant de phases architecturales de l'aire sacrée de l'acropole de Segni, de l'époque archaïque à la fin de la République, coïncidant successivement avec le début d'une occupation consistante sur l'acropole, avec la date de fondation traditionelle de la colonie latine (495 av. J.-Chr.), avec l'entrée de l'ancienne colonie dans l'orbite romaine comme *civitas foederata* (338 av. J.-Chr.) et avec le remaniement architectural de l'acropole à la fin du IIe siècle av. J.-Chr., comportant e.a. la construction du temple monumental de *Iuno Moneta*.

Frank Van Wonterghem